OfficeConnect®

ADSL Wireless 108Mbps 11g Firewall Router User Guide

Model WL-553
3CRWDR200A-75
3CRWDR200B-75

http://www.3com.com/

Part No. 10015251 Rev. AB
Published August 2008

Downloaded from www.Manualslib.com manuals search engine

3Com Corporation
350 Campus Drive
Marlborough, MA
USA 01752-3064

Copyright © 2008, 3Com Corporation. All rights reserved. No part of this documentation may be reproduced in any form or by any means or used to make any derivative work (such as translation, transformation, or adaptation) without written permission from 3Com Corporation.

3Com Corporation reserves the right to revise this documentation and to make changes in content from time to time without obligation on the part of 3Com Corporation to provide notification of such revision or change.

3Com Corporation provides this documentation without warranty, term, or condition of any kind, either implied or expressed, including, but not limited to, the implied warranties, terms or conditions of merchantability, satis34factory quality, and fitness for a particular purpose. 3Com may make improvements or changes in the product(s) and/or the program(s) described in this documentation at any time.

If there is any software on removable media described in this documentation, it is furnished under a license agreement included with the product as a separate document, in the hard copy documentation, or on the removable media in a directory file named LICENSE.TXT or !LICENSE.TXT. If you are unable to locate a copy, please contact 3Com and a copy will be provided to you.

UNITED STATES GOVERNMENT LEGEND

If you are a United States government agency, then this documentation and the software described herein are provided to you subject to the following:

All technical data and computer software are commercial in nature and developed solely at private expense. Software is delivered as "Commercial Computer Software" as defined in DFARS 252.227-7014 (June 1995) or as a "commercial item" as defined in FAR 2.101(a) and as such is provided with only such rights as are provided in 3Com's standard commercial license for the Software. Technical data is provided with limited rights only as provided in DFAR 252.227-7015 (Nov 1995) or FAR 52.227-14 (June 1987), whichever is applicable. You agree not to remove or deface any portion of any legend provided on any licensed program or documentation contained in, or delivered to you in conjunction with, this User Guide.

Unless otherwise indicated, 3Com registered trademarks are registered in the United States and may or may not be registered in other countries.

3Com, OfficeConnect and the 3Com logo are registered trademarks of 3Com Corporation.

Intel and Pentium are registered trademarks of Intel Corporation. Microsoft, MS-DOS, Windows, and Windows NT are registered trademarks of Microsoft Corporation. Novell and NetWare are registered trademarks of Novell, Inc. UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company, Ltd.

Netscape Navigator is a registered trademark of Netscape Communications.

JavaScript is a trademark of Sun Microsystems

Wi-Fi and the Wi-Fi logo are registered trademarks of the WI-Fi Alliance.

IEEE and 802 are trademarks of the Institute of Electrical and Electronics Engineers, Inc.

All other company and product names may be trademarks of the respective companies with which they are associated.

ENVIRONMENTAL STATEMENT

It is the policy of 3Com Corporation to be environmentally-friendly in all operations. To uphold our policy, we are committed to:

Establishing environmental performance standards that comply with national legislation and regulations.

Conserving energy, materials and natural resources in all operations.

Reducing the waste generated by all operations. Ensuring that all waste conforms to recognized environmental standards. Maximizing the recyclable and reusable content of all products.

Ensuring that all products can be recycled, reused and disposed of safely.

Ensuring that all products are labelled according to recognized environmental standards.

Improving our environmental record on a continual basis.

End of Life Statement

3Com processes allow for the recovery, reclamation and safe disposal of all end-of-life electronic components.

Regulated Materials Statement

3Com products do not contain any hazardous or ozone-depleting material.

Environmental Statement about the Documentation

The documentation for this product is printed on paper that comes from sustainable, managed forests; it is fully biodegradable and recyclable, and is completely chlorine-free. The varnish is environmentally-friendly, and the inks are vegetable-based with a low heavy-metal content.

Downloaded from www.Manualslib.com manuals search engine

CONTENTS

ABOUT THIS GUIDE

Naming Convention 9
Conventions 9
Related Documentation 10

1 INTRODUCING THE ROUTER

OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router 11
Firewall Router Advantages 13
Package Contents 13
Minimum System and Component Requirements 14
Front Panel 14
Rear Panel 16

2 HARDWARE INSTALLATION

Introduction 19
Safety Information 19
Positioning the Router 19
Using the Rubber Feet 20
Stacking the Router 20
Wall Mounting 20
Before you Install your Router 21
Powering Up the Router 22
Connecting the Router 22

3 SETTING UP YOUR COMPUTERS

Obtaining an IP Address Automatically 25
Windows 2000 25
Windows Vista 27
Windows XP 27

Downloaded from www.Manualslib.com manuals search engine

Windows 95/98/ME 27
Macintosh 28
Disabling PPPoE and PPTP Client Software 28
Disabling Web Proxy 29

4 RUNNING THE SETUP WIZARD

Accessing the Wizard 31
Welcome 33
Password 34
Time Zone 35
WAN Settings 36
LAN Settings 41
DHCP 41
Wireless Settings 42
Summary 44

5 ROUTER CONFIGURATION

Navigating Through the Router Configuration Pages 45
Main Menu 45
Option Tabs 46
Welcome Screen 46
Notice Board 46
Password 47
Wizard 48
LAN Settings 48
Unit Configuration 48
Static DHCP Assignment 50
DHCP Lease Table 51
Wireless Settings 51
Configuration 52
Encryption 54
WMM 57
Connection Control 59
Client List 61
Advanced Wireless Settings 61
WDS 64
Internet Settings 65

Downloaded from www.Manualslib.com manuals search engine

Firewall 66
Virtual Servers 66
Special Applications 68
DMZ 69
SPI 70
PC Privileges 71
Schedule Rules 72
Content Filter 73
URL Filter 74
System Tools 76
Restart 77
Time Zone 78
Configuration 79
Upgrade 80
Advanced 81
Static Route 81
RIP 81
DDNS 82
Quality of Service 84
Proxy ARP 84
IPSec 85
Port Mapping 87
Management 88
Syslog 88
SNMP 89
UPnP 90
Trusted Station 91
Remote Management 92
Utility 92
Diagnostics 93
Device Info 94
Summary 95
WAN 95
Statistics 96
Route 97
ARP 97
Support/Feedback 98
Support/Feedback 98

Downloaded from www.Manualslib.com manuals search engine

Support 98
Feedback 99

6 TROUBLESHOOTING

Basic Connection Checks 101
Browsing to the Router Configuration Screens 101
Connecting to the Internet 102
Forgotten Password and Reset to Factory Defaults 102
Wireless Networking 103
Power LED or Power Adapter OK LED Not Lit 105
Replacement Power Adapters 105
Alert LED 106
Recovering from Corrupted Software 106
Frequently Asked Questions 107
3Com Warranty and Support Services 108

A USING DISCOVERY

Running the Discovery Application 111
Windows Installation (95/98/2000/Me/NT/ XP) 111

B IP ADDRESSING

The Internet Protocol Suite 113
Managing the Router over the Network 113
IP Addresses and Subnet Masks 113
How does a Device Obtain an IP Address and Subnet Mask? 115
DHCP Addressing 115
Static Addressing 115
Auto-IP Addressing 115

C TECHNICAL SPECIFICATIONS

ADSL Wireless 11g 108Mbps Firewall Router 117
Standards 118
System Requirements 119
Ethernet Performance 119
Wireless Performance 119

Downloaded from www.Manualslib.com manuals search engine

Cable Specifications 119

D SAFETY INFORMATION

Important Safety Information 121
Wichtige Sicherheitshinweise 122
Consignes importantes de sécurité 123

E END USER SOFTWARE LICENSE AGREEMENT

GLOSSARY

INDEX

REGULATORY NOTICES

Regulatory Information 137
CAUTION: EXPOSURE TO RADIO FREQUENCY RADIATION. 137
US - Radio Frequency Requirements 138
USA-FEDERAL COMMUNICATIONS COMMISSION (FCC) 138
MANUFACTURER'S DECLARATION OF CONFORMITY 139
CANADA – INDUSTR YCANADA (IC) 139
INDUSTRY CANADA (IC) EMISSIONS COMPLIANCE STATEMENT 140
DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA 140
SAFETY COMPLIANCE NOTICE 140

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

About This Guide

This guide describes how to install and configure the OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router (3CRWDR200A-75 and 3CRWDR200B-75).

This guide is intended for use by those responsible for installing and setting up network equipment; consequently, it assumes a basic working knowledge of LANs (Local Area Networks) and Internet Router systems.

If a release note is shipped with the OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router and contains information that differs from the information in this guide, follow the information in the release note.

Most user guides and release notes are available in Adobe Acrobat Reader Portable Document Format (PDF) on the 3Com World Wide Web site:

http://www.3com.com

Naming Convention

Throughout this guide, the OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router is referred to as the "Router".

Category 3 and Category 5 Twisted Pair Cables are referred to as Twisted Pair Cables throughout this guide.

Conventions

Table 1 and Table 2 list conventions that are used throughout this guide.

Table 1 Notice Icons

Icon	Notice Type	Description
	Information note	Information that describes important features or instructions.

Downloaded from www.Manualslib.com manuals search engine

Table 1 Notice Icons

Icon	Notice Type	Description
	Caution	Information that alerts you to potential loss of data or potential damage to an application, system, or device.
	Warning	Information that alerts you to potential personal injury.

Table 2 Text Conventions

Convention	Description
The words "enter" and "type"	When you see the word "enter" in this guide, you must type something, and then press Return or Enter. Do not press Return or Enter when an instruction simply says "type."
Keyboard key names	If you must press two or more keys simultaneously, the key names are linked with a plus sign (+). Example: Press Ctrl+Alt+Del
Words in *italics*	Italics are used to: ■ Emphasize a point. ■ Denote a new term at the place where it is defined in the text. ■ Identify menu names, menu commands, and software button names. Examples: From the Help menu, select *Contents*. Click *OK*.

Related Documentation

In addition to this guide, each Router document set includes one Installation Guide. This guide contains the instructions you need to install and configure your Router.

Downloaded from www.Manualslib.com manuals search engine

1 INTRODUCING THE ROUTER

Welcome to the world of networking with 3Com®. In the modern business environment, communication and sharing information is crucial. Computer networks have proved to be one of the fastest modes of communication but, until recently, only large businesses could afford the networking advantage. The OfficeConnect® product range from 3Com has changed all this, bringing networks to the small office.

The products that compose the OfficeConnect range give you, the small office user, the same power, flexibility, and protection that has been available only to large corporations. Now, you can network the computers in your office, connect them all to a single Internet outlet, and harness the combined power of all of your computers.

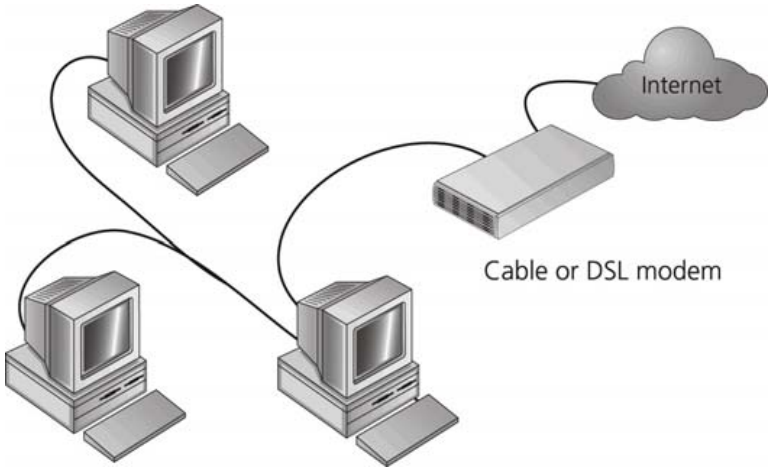
OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router

The OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router is designed to provide a cost-effective means of sharing a single broadband Internet connection amongst several wired and wireless computers. The Router also provides protection in the form of an electronic "firewall", preventing anyone outside of your network from seeing your files or damaging your computers. The Router also gives you many administrative features such as scheduled internet access policies, web content filter, and intrusion detections.

Figure 1 shows an example network without a Router. In this network, only one computer is connected to the Internet. This computer must always be powered on for the other computers on the network to access the Internet.

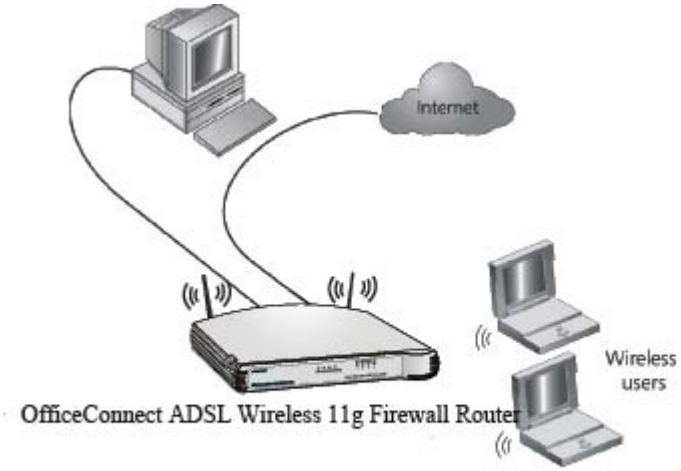
Downloaded from www.Manualslib.com manuals search engine

Figure 1 Example Network Without a Firewall Router



When you use the Firewall Router in your network (Figure 2), it becomes your connection to the Internet. Connections can be made directly to the Router, or to an OfficeConnect Switch or Hub, expanding the number of computers you can have in your network.

Figure 2 Example Network Using a ADSL Wireless 108Mbps 11g Firewall Router



Downloaded from www.Manualslib.com manuals search engine

Firewall Router Advantages

The advantages of the Firewall ADSL Wireless 108Mbps 11g Firewall Router include:

- Shared Internet connection for both wired and wireless computers
- High speed 802.11g wireless networking
- No need for a dedicated, "always on" computer serving as your Internet connection
- Cross-platform operation for compatibility with Windows, Unix and Macintosh computers
- Easy-to-use, Web-based setup and configuration
- Provides centralization of all network address settings (DHCP)
- Acts as a Virtual server to enable remote access to Web, FTP, and other services on your network
- Security — Firewall protection against Internet hacker attacks and encryption to protect wireless network traffic
- Filtered access of inappropriate Web sites using the built-in URL filter
- Internet Access Policy, to schedule your Internet Acccess rules with options in keywords and applications blocking
- Wireless Multimedia, to maximize the quality of your internet service with traffic prioritization

Package Contents

The Router kit includes the following items:

- One OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
- One power adapter for use with the Router
- Four rubber feet
- One RJ 11 cable (typically a telephone cable) if your model is 3CRWDR200A-75
- One RJ 45 cable (typically an Ethernet cable) if your model is 3CRWDR200B-75
- One CD-ROM containing the Router Discovery program and this User Guide
- Installation Guide
- One Support and Safety Information Sheet

Downloaded from www.Manualslib.com manuals search engine

- One Warranty Flyer

If any of these items are missing or damaged, please contact your retailer.

Minimum System and Component Requirements

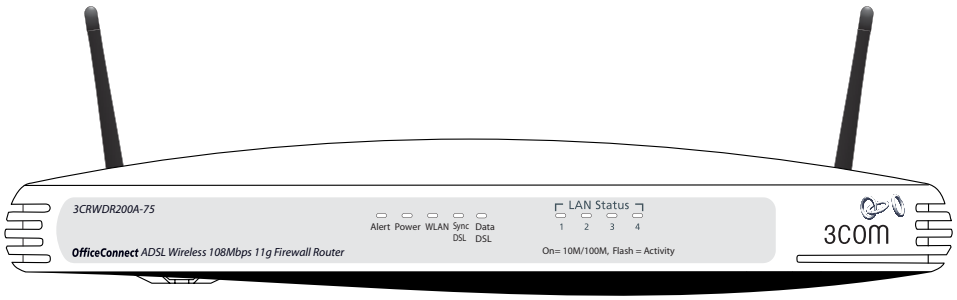
Your Router requires that the computer(s) and components in your network be configured with at least the following:

- A computer with an operating system that supports TCP/IP networking protocols (for example Windows 95/98/NT/Me/2000/XP, Unix, Mac OS 8.5 or higher).
- An Ethernet 10Mbps or 10/100/1000 Mbps NIC for each computer to be connected to the four-port switch on your Router.
- An 802.11b or 802.11g wireless NIC.
- An active ADSL subscription and connection.
- A Web browser that supports JavaScript, such as Netscape 4.7 or higher, Internet Explorer 5.0 or higher, or Mozilla 1.2.1 or higher.

Front Panel

The front panel of the Router contains a series of indicator lights (LEDs) that help describe the status of various networking and connection operations.

Figure 3 Router — Front Panel



1 Alert LED

Orange

Indicates a number of different conditions, as described below.

Off — The Router is operating normally.

Flashing quickly — Indicates one of the following conditions:

Downloaded from www.Manualslib.com manuals search engine

- The Router has just been started up and is running a self-test routine, or
- The administrator has invoked the *Reset to Factory Defaults* command, or
- The system software is in the process of being upgraded

In each of these cases, wait until the Router has completed the current operation and the alert LED is Off.

Flashing slowly — The Router has completed the *Reset to Factory Defaults* process, and is waiting for you to reset the unit. To do this, remove power, wait 10 seconds and then re-apply power. The Router will then enter the start-up sequence and resume normal operation.

On for 2 seconds, and then off — The Router has detected and prevented a hacker from attacking your network from the Internet.

Continuously on — A fault has been detected with your Router during the start-up process. Refer to Chapter 6 "Troubleshooting".

2 Power LED

Green

Indicates that the Router is powered on.

3 Wireless LAN (WLAN) Status LED

Yellow

If the LED is on it indicates that wireless networking is enabled. If the LED is flashing, data is being transmitted or received. If the LED is off, the Wireless LAN has been disabled in the Router, or there is a problem. Refer to Chapter 6 "Troubleshooting".

4 Four LAN Status LEDs

Green (100 Mbps link) / yellow (10 Mbps link)

If the LED is on, the link between the port and the next piece of network equipment is OK. If the LED is flashing, the link is OK and data is being transmitted or received. If the LED is off, nothing is connected, the connected device is switched off, or there is a problem with the connection (refer to Chapter 6 "Troubleshooting"). The port will automatically adjust to the correct speed and duplex.

5 Sync DSL Status LED

Downloaded from www.Manualslib.com manuals search engine

The LED lights up and stays on when the connection between ADSL service and the Router is OK. If the LED is off, nothing is connected or there is a problem (refer to Chapter 6 "Troubleshooting").

6 Data DSL Status LED

If the LED is flashing, the link is OK and data is being transmitted or received over the internet. If the LED is off this can also indicate the login has failed on a PPPoE or PPPoA ADSL connection

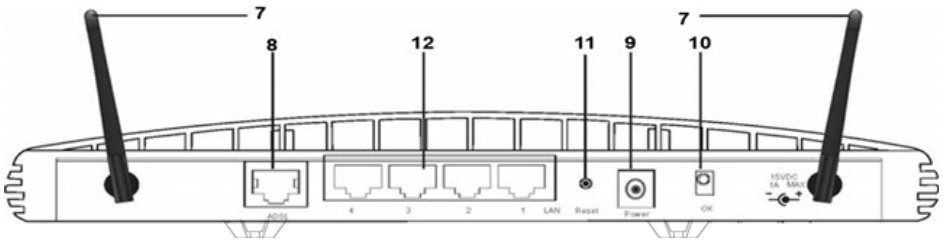
The Sync DSL LED and Data DSL LED are excellent diagnostic indicators. If interpreted correctly they can give a reliable indication of the cause of an ADSL connection failure.

Rear Panel

The rear panel (Figure 4) of the Router contains four LAN ports, one Ethernet ADSL port, a power adapter OK LED, and a power adapter socket.

Figure 4 Router - Rear Panel

7 Wireless Antennae



The antennae on the product should be placed in a 'V' position when initially installed.

CAUTION: *Do not force the antennae beyond their mechanical stops. Rotating the antennae further may cause damage.*

8 ADSL Port

Using the RJ11 cable provided, connect your Router to the telephone socket via a splitter.
or
Using the RJ45 cable provided, connect your Router to the telephone socket via a splitter.

9 Power Adapter Socket

Downloaded from www.Manualslib.com manuals search engine

Only use the power adapter supplied with this Router. Do not use any other adapter.

10 Power Adapter OK LED

Green

Indicates that the power adapter is supplying power to the Router. If the LED is off, there may be a problem with the power adapter or adapter cable.

11 Reset Button

Press this button to reset your Router to factory default.

12 Four 10/100 LAN ports

Using suitable RJ-45 cable, you can connect your Router to a computer, or to any other piece of equipment that has an Ethernet connection (for example, a hub or a switch). The LAN ports will automatically set themselves to MDI or MDIX depending on the device to which they are connected and the type of cable used.

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

2 HARDWARE INSTALLATION

Introduction

This chapter will guide you through a basic installation of the Router, including:

- Connecting the Router to the Internet.
- Connecting the Router to your network.
- Setting up your computers for networking with the Router.

Safety Information

WARNING: *Please read the "Safety Information" section in Appendix D before you start.*

VORSICHT: Bitte lesen Sie den Abschnitt "Wichtige Sicherheitshinweise" sorgfältig durch, bevor Sie das Gerät einschalten.

AVERTISSEMENT: Veuillez lire attentivement la section "Consignes importantes de sécurité" avant de mettre en route.

Positioning the Router

You should place the Router in a location that:

- is conveniently located for connection to the telephone socket that will be used to connect to the Internet.
- is centrally located to the wireless computers that will connect to the Router. A suitable location might be on top of a high shelf or similar furniture to optimize wireless connections to computers in both horizontal and vertical directions, allowing wider coverage.
- allows convenient connection to the computers that will be connected to the four LAN ports on the rear panel, if desired.
- allows easy viewing of the front panel LED indicator lights, and access to the rear panel connectors, if necessary.

Downloaded from www.Manualslib.com manuals search engine

When positioning your Router, ensure:

- It is out of direct sunlight and away from sources of heat.
- Cabling is away from power lines, fluorescent lighting fixtures, and sources of electrical noise such as radios, transmitters and broadband amplifiers.
- Water or moisture cannot enter the case of the unit.
- Air flow around the unit and through the vents in the side of the case is not restricted. 3Com recommends you provide a minimum of 25 mm (1 in.) clearance.

Using the Rubber Feet

Use the four self-adhesive rubber feet to prevent your Router from moving around on your desk or when stacking with other flat top OfficeConnect units. Only stick the feet to the marked areas at each corner of the underside of your Router.

Stacking the Router

If you are stacking your Router with other OfficeConnect units, install the Router at the top of the stack. Refer to the documentation supplied with your other OfficeConnect unit for details on using the stacking clip.

A stacking clip is not supplied with the Router. Use the stacking clip supplied with another stackable OfficeConnect unit.

Wall Mounting

There are two slots on the underside of the Router that can be used for wall mounting.

When wall mounting the unit, ensure that it is within reach of the power outlet.Do not install the Router more than 200 cm above the ground.

You will need two suitable screws to wall mount the unit. To do this:

1. Ensure that the wall you use is smooth, flat, dry and sturdy and make two screw holes which are 150 mm (5.9 in.) apart.
2. Fix the screws into the wall, leaving their heads 3 mm (0.12 in.) clear of the wall surface.
3. Remove any connections to the unit and locate it over the screw heads. When in line, gently push the unit on to the wall and move it downwards to secure.

Downloaded from www.Manualslib.com manuals search engine

When making connections, be careful not to push the unit up and off the wall.

CAUTION: *Only wall mount single units, do not wall mount stacked units.*

Before you Install your Router

Before you install and configure your Router, you need the following additional information. If you do not have this information, contact your Internet Service Provider (ISP). Space is provided below for you to record this information.

If you have a DSL connection and your ISP allocates IP information dynamically over PPPoE, (or PPPoA, which is in common use in the UK), you need a User Name and Password:

PPPoE User Name : _____

PPPoE Password : _____

PPPoE Service Name : _____

You only need a PPPoE Service Name if your ISP requires one. Do not enter anything if your ISP does not require this information.

You should leave the Authentication Method as its default: Auto if your ISP does not specify this parameter.

If your ISP allocates fixed or static IP information, you need the following information:

IP Address : ____.____.____.____

Subnet Mask : ____.____.____.____

Default Router address : ____.____.____.____

DNS address : ____.____.____.____

Downloaded from www.Manualslib.com manuals search engine

If your ISP allocates IP information dynamically over a protocol other than PPPoE, you do not need any further information. This configuration is typical of cable connections.

Powering Up the Router

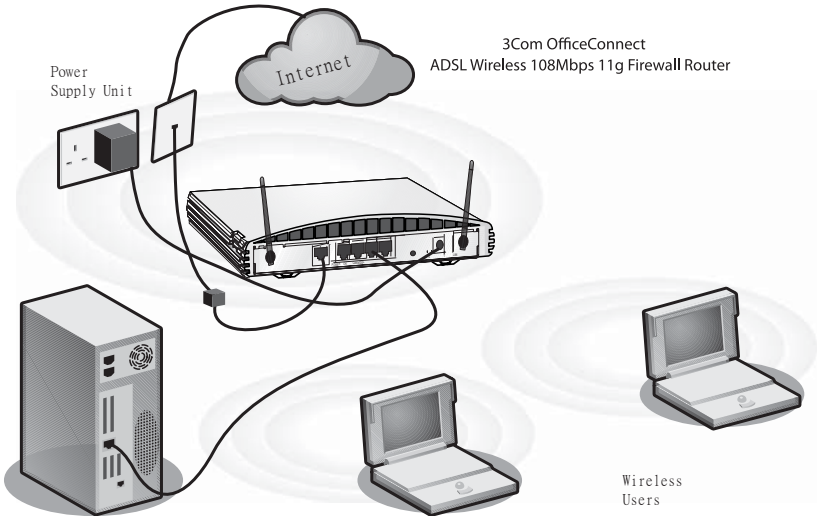
To power up the Router:

1. Plug the power adapter into the power adapter socket located on the back panel of the Router.
2. Plug the power adapter into a standard electrical wall socket.

Connecting the Router

The first step for installing your Router is to physically connect it to an RJ11or RJ45 cable, as appropriate, with the splitter and then connect the Router to a computer in order to be able to access the Internet. See Figure 5:

Figure 5 Connecting the Router



To use your Router to connect to the Internet through an DSL connection:

1. Insert one end of the supplied telephone (RJ-11) cable into the ADSL port on the rear panel of the Router. Check that the DSL Sync status LED lights on the Router.
2. Connect your computer to one of the four LAN ports on the Router using a Category 5 twisted pair cable. Check that the corresponding LAN status LED on the Router lights.

Downloaded from www.Manualslib.com manuals search engine

You have now completed the hardware installation of your Router. Next you need to set up your computers so that they can make use of the Router to communicate with the Internet.

3Com recommends that you perform the initial Router configuration from a computer that is directly connected to one of the LAN ports.

If you configure the Router from a wireless computer, note that you may lose contact with the Router if you change the wireless configuration.

To communicate wirelessly with your Router, your wireless NIC should be set as follows:

- Encryption — none
- Service Area Name/SSID — 3Com
- Channel — 11

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

3 SETTING UP YOUR COMPUTERS

The Router has the ability to dynamically allocate network addresses to the computers on your network, using DHCP. However, your computers need to be configured correctly for this to take place. To change the configuration of your computers to allow this, follow the instructions in this chapter. If your computers are configured with fixed or static addresses and you do not wish to change this, then you should use the Discovery program on the Router CD-ROM to detect and configure your Router. Refer to Appendix A for information on using the Discovery program.

Obtaining an IP Address Automatically

Refer to the section below that relates to your operating system for details on how to obtain an IP address automatically.

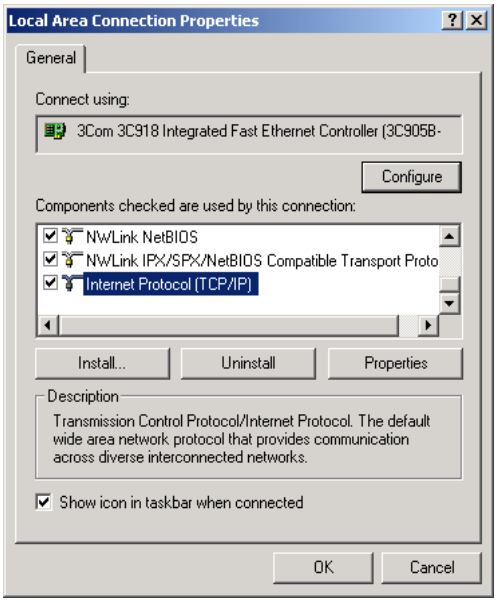
Windows 2000

If you are using a Windows 2000-based computer, use the following procedure to change your TCP/IP settings:

1. From the Windows *Start* Menu, select *Settings* > *Control Panel*.
2. Double click on *Network and Dial-Up Connections*.
3. Double click on *Local Area Connection*.
4. Click on *Properties*.
5. A screen similar to Figure 6 should be displayed. Select *Internet Protocol TCP/IP* and click on *Properties*.

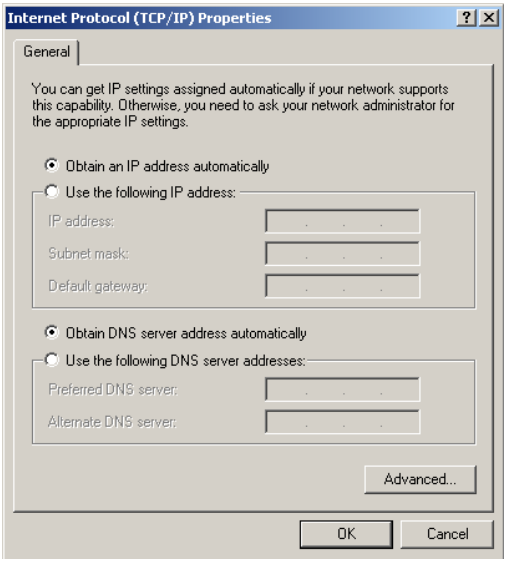
Downloaded from www.Manualslib.com manuals search engine

Figure 6 Local Area Properties Screen



6 Ensure that the options *Obtain an IP Address automatically*, and *Obtain DNS server address automatically* are both selected as shown in Figure 7. Click *OK*.

Figure 7 Internet Protocol (TCP/IP) Properties Screen


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
Subnet mask:
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

7 Restart your computer.

Downloaded from www.Manualslib.com manuals search engine

Windows Vista If you are using a Windows Vista computer, use the following procedure to change your TCP/IP settings:

1. From the Windows start menu, select Network.
2. Select Network Center option from the top menu.
3. Select Manage Networks from the left panel.
4. Double click on the Local Area Connection icon. A screen titled *Local Area Connection Status* will appear.
5. Click on Details and bring up the Local Area Connection Properties tab.
6. Select *Internet Protocol TCP/IP* and click on *Properties*.
7. Ensure that the options *Obtain an IP Address automatically*, and *Obtain DNS servers automatically* are both selected. Click *OK*.

Windows XP If you are using a Windows XP computer, use the following procedure to change your TCP/IP settings:

1. From the Windows *Start* menu, select *Control Panel*.
2. Click on *Netmwork and Internet Connections*.
3. Click on the *Network Connections* icon.
4. Double click on *LAN* or *High Speed Connection* icon. A screen titled *Local Area Connection Status* will appear.
5. Select *Internet Protocol TCP/IP* and click on *Properties*.
6. Ensure that the options *Obtain an IP Address automatically*, and *Obtain DNS servers automatically* are both selected. Click *OK*.
7. Restart your computer.

Windows 95/98/ME If you are using a Windows 95/98/ME computer, use the following procedure to change your TCP/IP settings:

1. From the Windows *Start* Menu, select *Settings* > *Control Panel*.
2. Double click on *Network*. Select the *TCP/IP* item for your network card and click on *Properties*.
3. In the TCP/IP dialog, select the *IP Address* tab, and ensure that *Obtain IP address automatically* is selected. Click *OK*.

Downloaded from www.Manualslib.com manuals search engine

Macintosh If you are using a Macintosh computer, use the following procedure to change your TCP/IP settings:

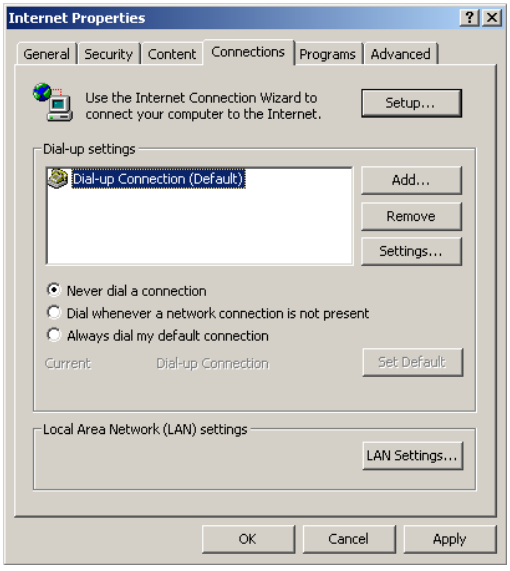
1. From the desktop, select *Apple Menu*, *Control Panels*, and *TCP/IP*.
2. In the *TCP/IP* control panel, set *Connect Via:* to "Ethernet".
3. In the TCP/IP control panel, set *Configure:* to "Using DHCP Server."
4. Close the *TCP/IP* dialog box, and save your changes.
5. Restart your computer.

Disabling PPPoE and PPTP Client Software

If you have PPPoE or PPTP client software installed on your computer, you will need to disable it. To do this:

1. From the Windows *Start* menu, select *Settings* > *Control Panel*.
2. Double click on *Internet* Options.
3. Select the *Connections* Tab. A screen similar to Figure 8 should be displayed.
4. Select the *Never Dial a Connection* option.

Figure 8 Internet Properties Screen



You may wish to remove the PPPoE client software from your computer to free resources, as it is not required for use with the Router.

Downloaded from www.Manualslib.com manuals search engine

Disabling Web Proxy

Ensure that you do not have a web proxy enabled on your computer.

Go to the *Control Panel* and click on *Internet Options*. Select the *Connections* tab and click *LAN Settings* at the bottom. Make sure that the *Use Proxy Server* option is unchecked.

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

4 Running the Setup Wizard

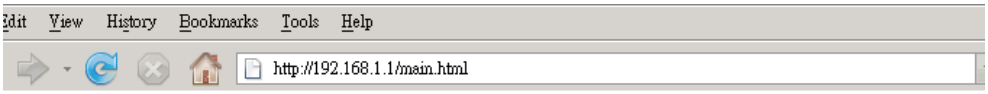
Accessing the Wizard

The Router setup program is Web-based, which means that it is accessed through your Web browser (Netscape Navigator 4.7 or higher, Internet Explorer 5.0 or higher, or Mozilla 1.2.1 or higher).

To use the Setup Wizard:

1. Ensure that you have at least one computer connected to the Router. Refer to Chapter 2 for details on how to do this.
2. Launch your Web browser on the computer.
3. Enter the following URL in the location or address field of your browser: **http://192.168.1.1**. The Login screen displays.

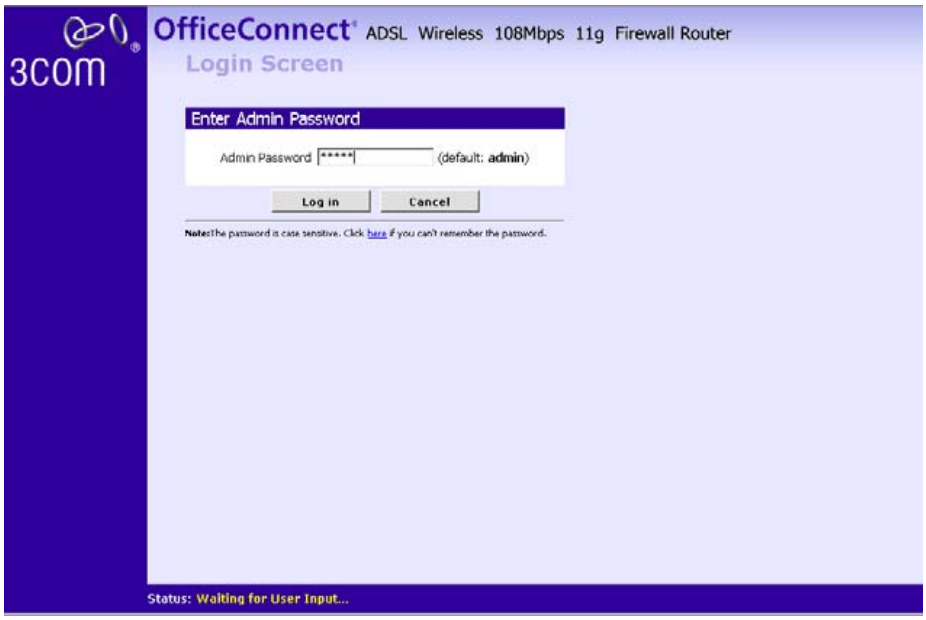
Figure 9 Web Browser Location Field (Factory Default)



4. To log in as an administrator, enter the password (the default setting is **admin**) in the *System Password* field and click *Log in* .

Downloaded from www.Manualslib.com manuals search engine

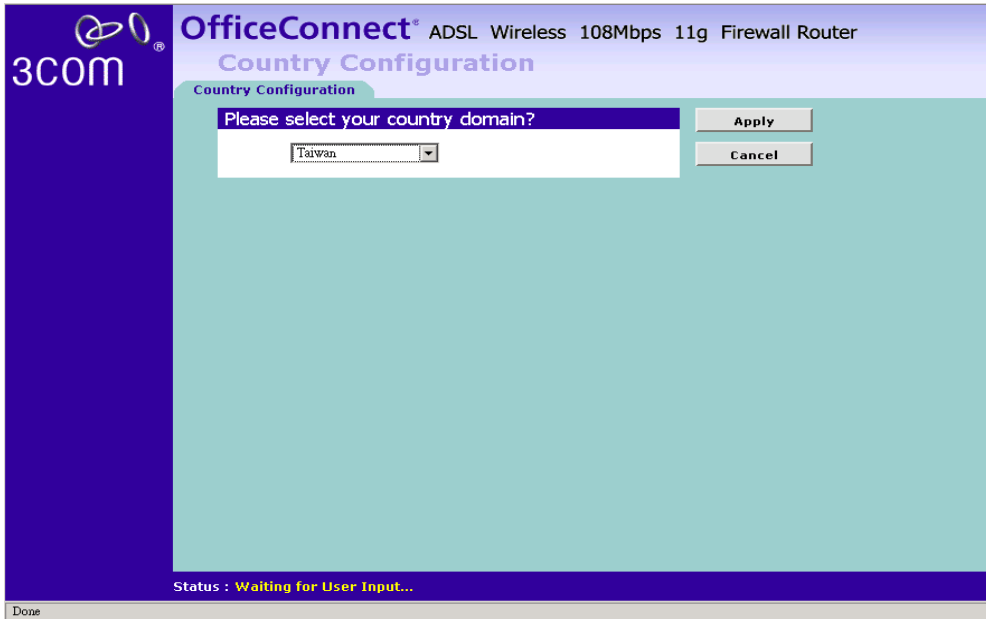
Figure 10 Router Login Screen



5 If the password is correct, the *Country Selection* screen will appear. Select the country you wish to configure the Router for, then click *Apply*.

If you purchased your Router in the United States, you do not see this screen, as it is automatically set.

Figure 11 Country Selection Screen



Downloaded from www.Manualslib.com manuals search engine

6 When you have selected a country either:

- The *Welcome* screen will appear (Figure 12). Select the *Wizard* tab and click *Wizard.*

or

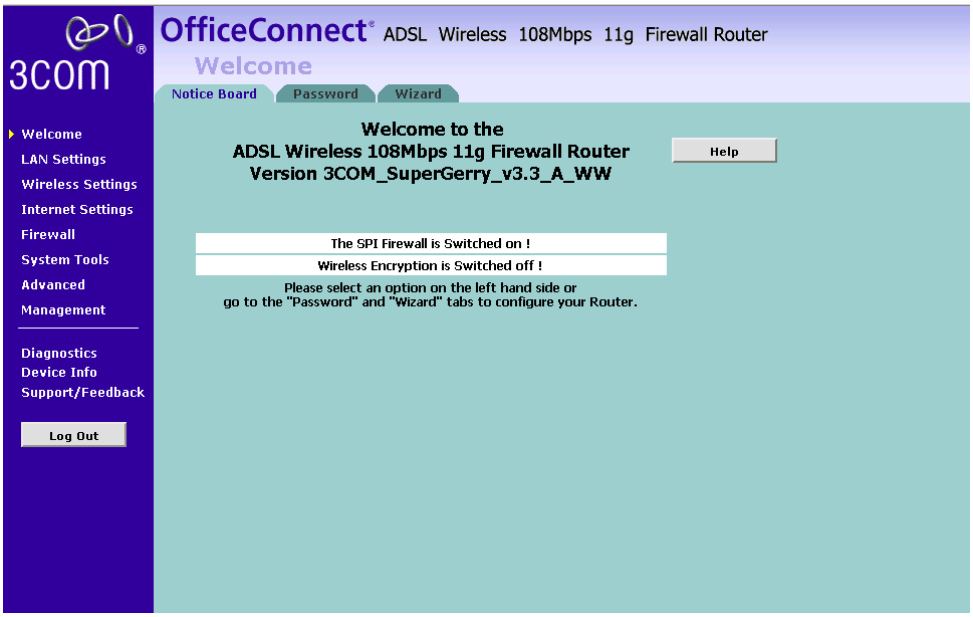
- If your Router has not been configured before, the Wizard will launch automatically (refer to Figure 13).

7 Click *Next*.

8 You will be guided step-by-step through a basic setup procedure.

Welcome

Figure 12 Welcome Screen



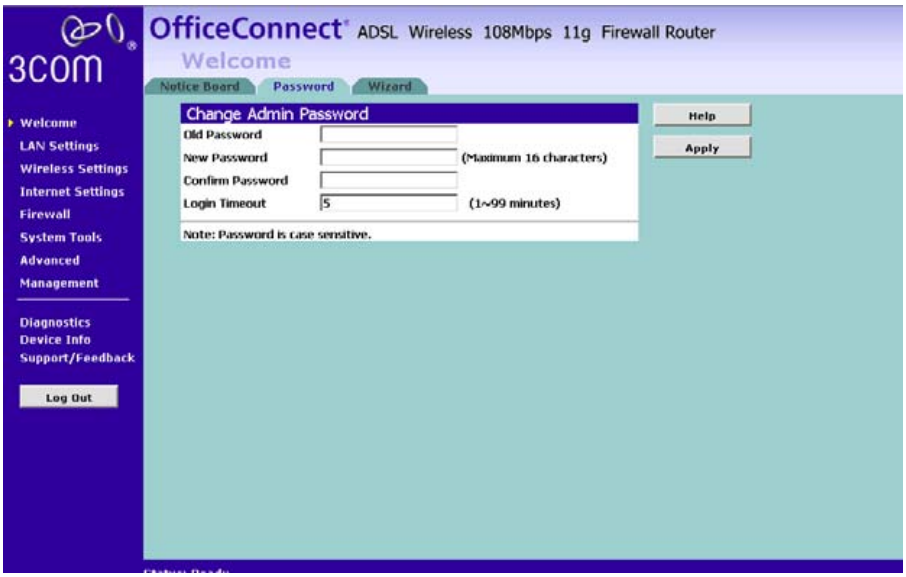
Downloaded from www.Manualslib.com manuals search engine

Figure 13 Wizard Screen

3com
OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
Welcome
Notice Board
Password
Wizard
Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
System Tools
Advanced
Management
Diagnostics
Device Info
Support/Feedback
Log Out
Setup Wizard
This Wizard will help you quickly configure your Router to access the Internet. Once completed, you can use the left hand menu to access more configuration options. Please see the User Guide for further details.
To complete the Wizard you will need to know the information provided by your ISP, eg IP addresses,Usernames etc.If you are missing any information please contact your ISP.
Next >>
Cancel

Password

Figure 14 Change Administration Password Screen



When the *Change Administration Password* screen appears, type the *Old Password*, then a new password in both the *New Password* and *Confirm Password* boxes.

Downloaded from www.Manualslib.com manuals search engine

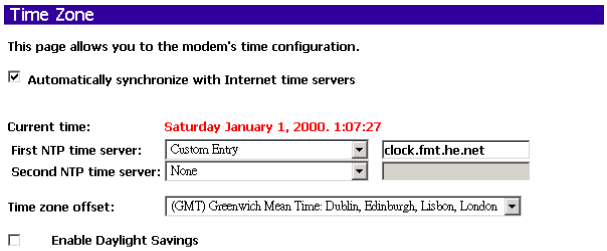
3Com recommends entering a new password when setting up the Router for the first time. The Router is shipped from the factory with a default password, **admin**.

1. *Password is case sensitive.*
2. *Write the new password down and keep it in a safe place, so that you can change your settings in the future.*

Click *Next* to display the *Time Zone* setup screen.

Time Zone

Figure 15 Time Zone Screen



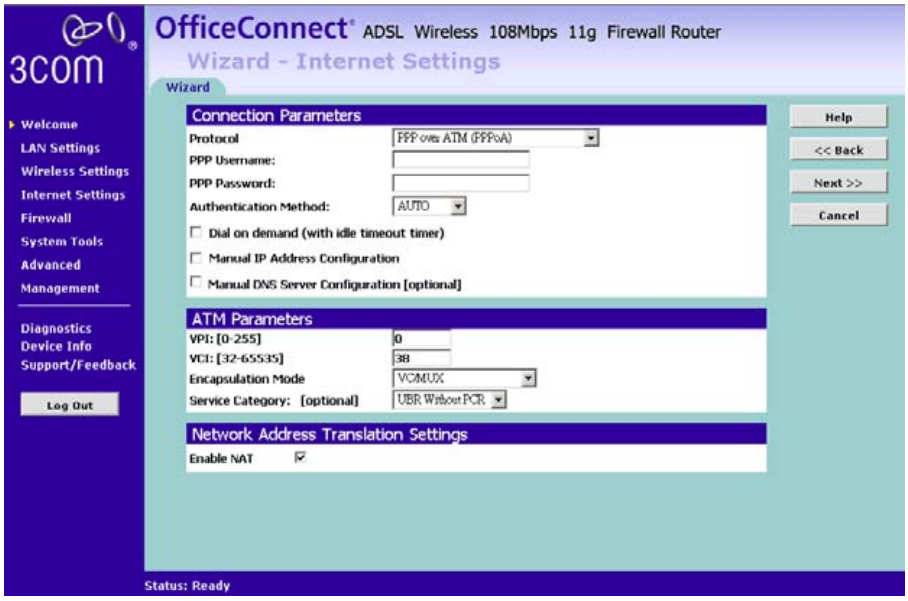
Select your time zone from the pull-down menu, check the daylight savings option if required, and then click *Next*.

The Daylight Savings option advances the system clock by one hour. It does not cause the system clock to be updated for daylight savings time automatically.

Downloaded from www.Manualslib.com manuals search engine

WAN Settings

Figure 16 Internet Settings Screen



This *Internet Addressing Mode* window allows you to set up the Router for the type of Internet connection you have. Before setting up your Internet connection mode, have the account information from your ISP ready.

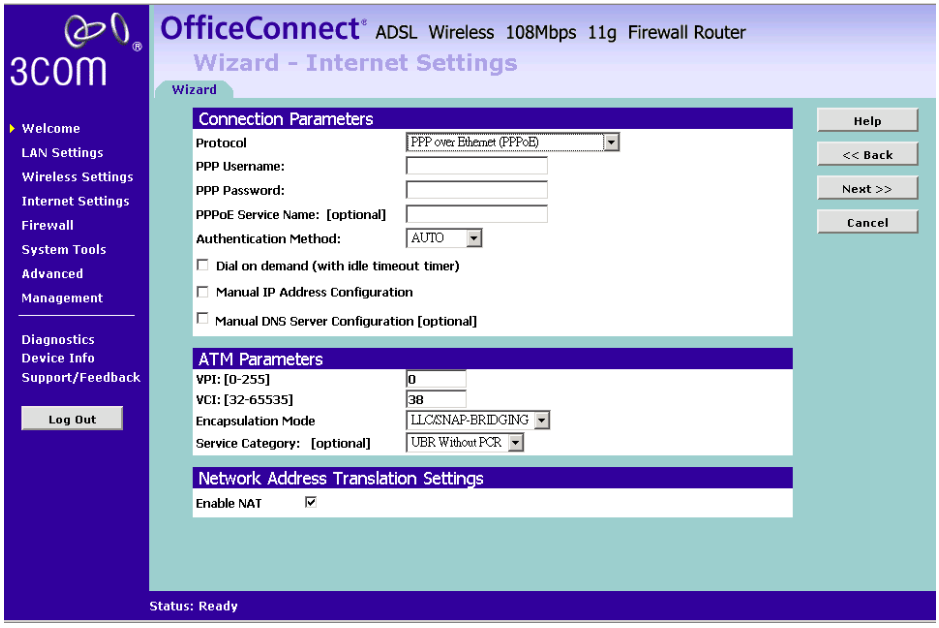
Select an Internet Addressing mode from the following:

- PPPoE
- PPPoA
- Dynamic/Fix IP in 1483 Bridge Mode
- IP over ATM
- Bridging

Downloaded from www.Manualslib.com manuals search engine

PPPoE Mode

Figure 17 PPPoE Screen



To setup the Router for use with a PPP over Ethernet (PPPoE) connection, use the following procedure:

1 Enter your PPP user name in the *PPPoE User Name* text box.

2 Enter your PPP password in the *PPPoE Password* text box.

3 Enter your PPP over Ethernet service name in the *PPPoE Service Name* text box.

Do not enter anything in this box if your ISP does not require a service name.

4 Select **Dial on Demand** if you want the the internet connection dropped when there is no activities with the Internet. Enter an idle time from the *Maximum Idle Time* drop down list. This is the amount of time without Internet activity that you want to allow before the Router ends the PPPoE session.

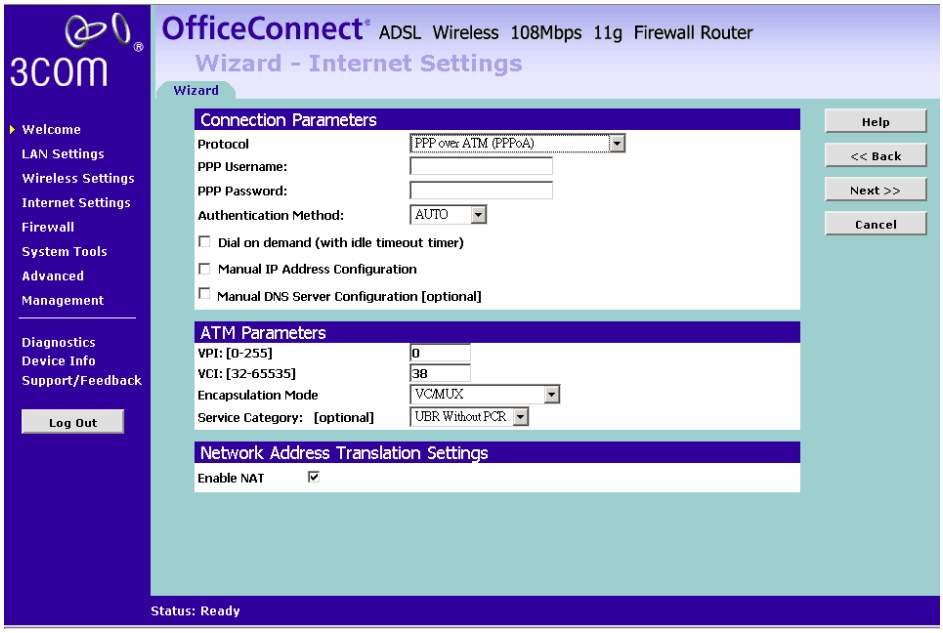
5 Manual IP Address/DNS Server configuration: Enter the IP Address that you would like to be assigned to the router's WAN interface if you have required one from your ISP. And enter the DNS Server's IP Address if it is given by your ISP(optional).

6 Check all of your settings, and then click *Next*.

Downloaded from www.Manualslib.com manuals search engine

PPPoA Mode

Figure 18 The PPPoA Screen



To setup the Router for use with a PPPoA connection:

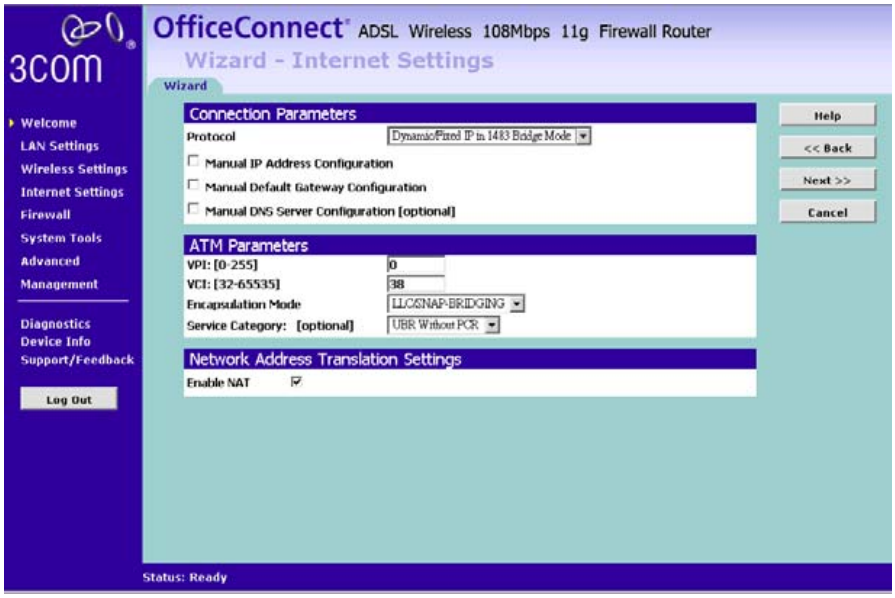
1. Enter your PPP over ATM user name in the *PPP User Name* text box.
2. Enter your PPP over ATM password in the *PPP Password* text box.
3. Select **Dial on Demand** if you want the internet connection dropped when there is no activities with the Internet. Enter an idle time from the *Maximum Idle Time* drop down list. This is the amount of time without Internet activity that you want to allow before the Router ends the PPPoE session.
4. Manual IP Address/DNS Server configuration: Enter the IP Address that you would like to be assigned to the router's WAN interface if you have required one from your ISP. And enter the DNS Server's IP Address if it is given by your ISP(optional).
5. Check all of your settings, and then click *Next*.

VPI/VCI: VPI (Virtual Path Identifier) and VCI (Virtual Channel Identifier) define an ATM PVC(Permanent Virtual Circuit). Please obtain these values from your ISP.

Downloaded from www.Manualslib.com manuals search engine

Dynamic/Fixed IP in 1483 Bridge Mode

Figure 19 The Dynamic/Fixed IP in Bridge Mode



To setup the Router for use with a **Dynamic/Fixed IP in 1483 Bridge Mode** connection, use the following procedure:

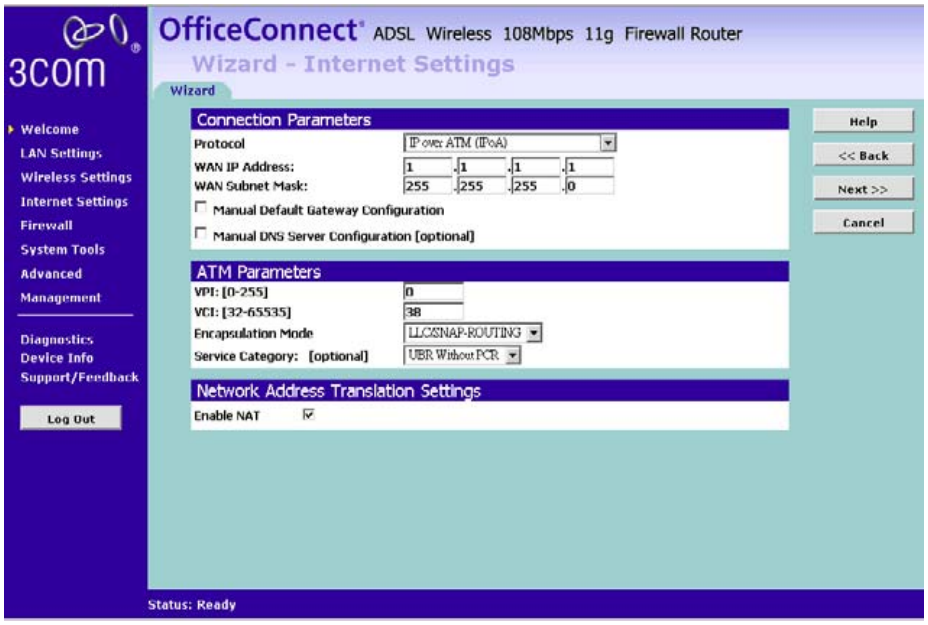
1. Manual IP Address Configuration: You may enter the router's WAN IP address and subnet mask here if your ISP has given you a static IP Address.
2. Manual Default Gateway Configuration: Enter the gateway's IP address or select the WAN interface to use to connect to it.
3. Manual DNS Server Configuration:

   Your ISP may provide you with primary and secondary DNS addresses. If they have been provided, enter the addresses in the appropriate text boxes. If not, leave *0.0.0.0* in the boxes.
4. Check all of your settings, and then click *Next*.

Downloaded from www.Manualslib.com manuals search engine

IP over ATM Mode(IPoA)

Figure 20 The IP over ATM Screen



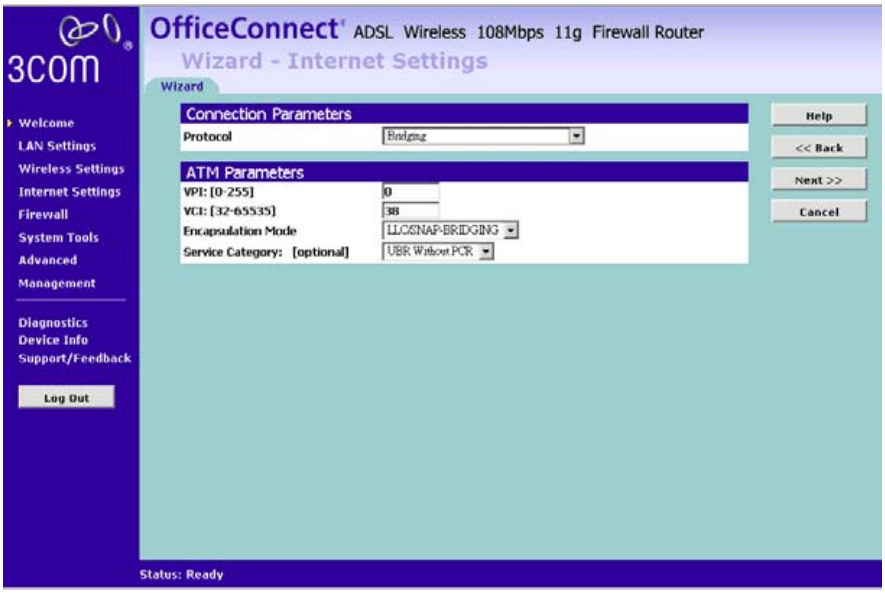
To set up the Router for use with an IPoA mode, use the following procedure:

1. WAN IP Address: Enter the IP Address given by your ISP.
2. WAN Subnet Mask: Enter the subnet mask given by your ISP.
3. Manual Default Gateway Configuration: Select this option to enter the WAN interface's IP Address if you are given with this information by your ISP or select a WAN interface to use to connect to it.
4. Manual DNS configuration: Enter the DNS server's address from the ISP if it is required. (this is optional).

Downloaded from www.Manualslib.com manuals search engine

Bridging Mode

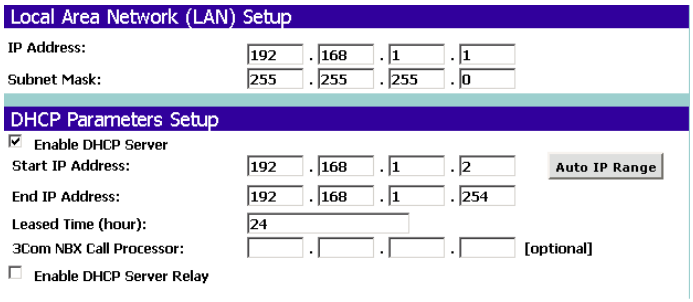
Figure 21 Bridging Mode Screen



With bridging the router simply acts like a modem. The router passes traffic through to another device, usually a computer or a router, which handles authentication with the ISP.

LAN Settings

Figure 22 LAN IP Address Screen



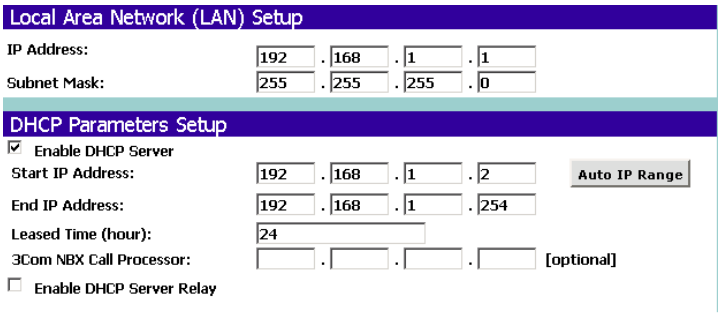
This screen displays a suggested LAN IP address and subnet mask of the Router. It also allows you to change the IP address and subnet mask.

DHCP

The Router contains a Dynamic Host Configuration (DHCP) server that can automatically configure the TCP/IP settings of every computer on your network.

Downloaded from www.Manualslib.com manuals search engine

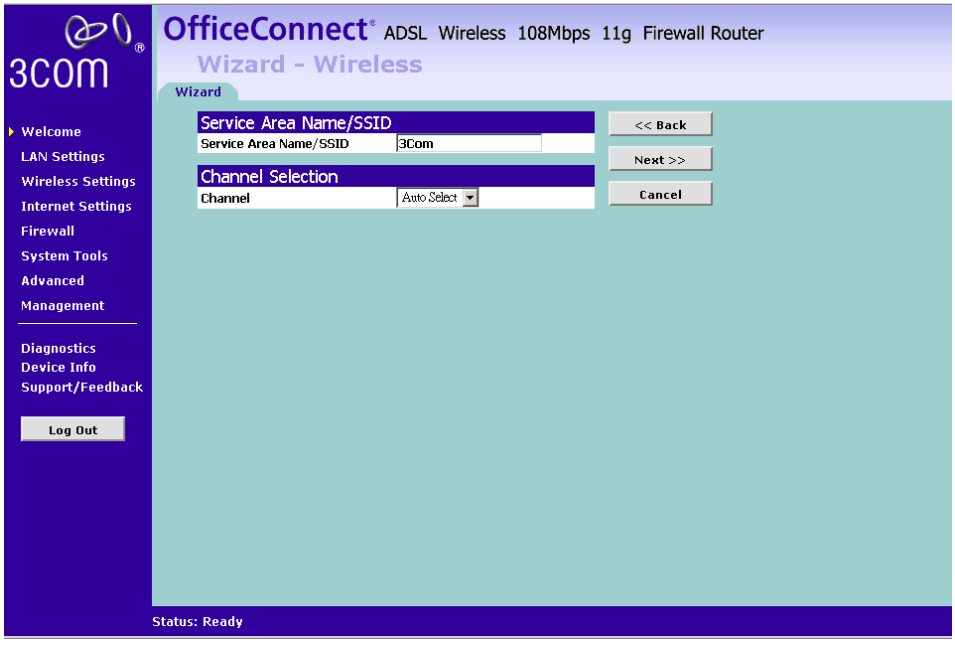
Figure 23 DHCP Server Setup Screen



To activate the DHCP Server option, select *Enable the DHCP server with the following settings:* and specify the IP pool range. The largest available continuous IP pool will be automatically entered; if this is not appropriate, make your required changes. To disable DHCP, select *Do not enable the DHCP server.* Click *Next* when you have finished.

Wireless Settings

Figure 24 Wireless Configuration Screen



This screen displays the Channel and Service Area Name. It also allows you to change these settings. There are a maximum of 14 channels, the number available to you is dependent on the country you reside in. Selecting *Clear Channel Select* from the *Channel* drop-down list allows

Downloaded from www.Manualslib.com manuals search engine

the Router to automatically select an available channel when first powered on.

The Service Area Name default for 3Com products is "3Com". Up to 32 (case sensitive) characters can be entered for the Service Area Name.

3Com strongly recommends that you change the SSID to something other than the default.

Click *Next* when you have finished.

If you are configuring the Router from a wireless computer any changes you make to the wireless configuration will result in communication between the Router and your computer being lost. This is why 3Com strongly recommends that you configure the Router from a wired computer.

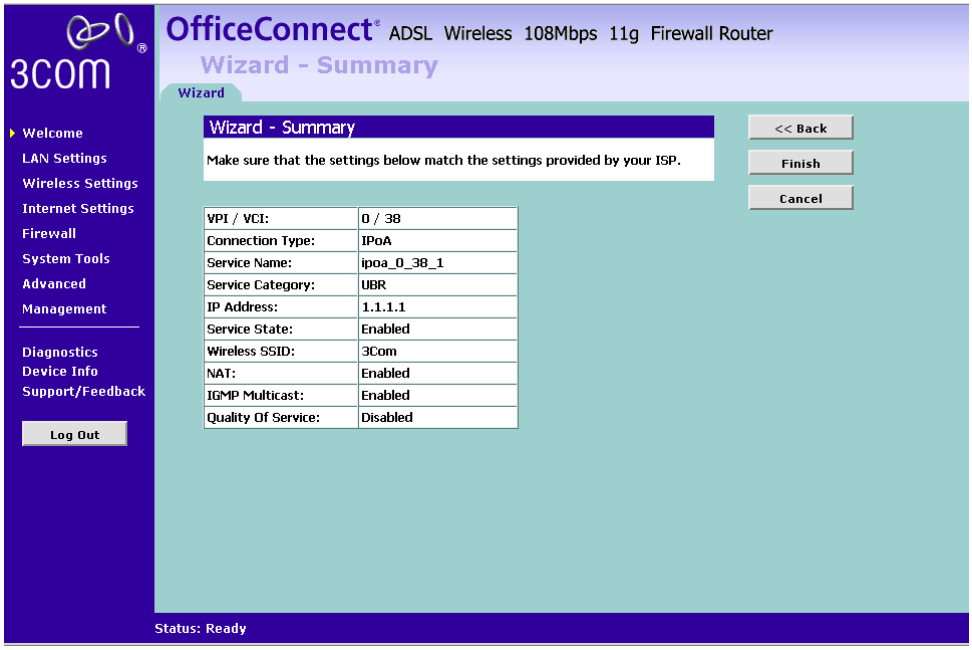
It is very important that you set up your wireless clients to use the same Service Area Name or SSID as the one you use on this screen. If your clients use a different Service Area Name then they will not be able to communicate with the Router.

The choice of channel is less important as Clients will generally search all of the available channels. You should however make a note of the channel you select as this may be useful if you experience problems with your clients.

Downloaded from www.Manualslib.com manuals search engine

Summary

Figure 25 Configuration Summary Screen



When you complete the Setup Wizard, a configuration summary will display. 3Com recommends that you verify the configuration information of the Router and then print this page for your records. Click *Finish* and the router will reboot now.

If you have made changes to the LAN Settings or wireless configuration options, you may need to reconfigure the computer you are using in order to make contact with the Router again.

Your Router is now configured and ready for use.

For information on improving your Wireless network security see "Wireless Settings" *on* page 51.

See Chapter 5 for a detailed description of the Router configuration screens.

Downloaded from www.Manualslib.com manuals search engine

5 Router Configuration

Navigating Through the Router Configuration Pages

This chapter describes all the screens available through the Router configuration pages, and is provided as a reference. To get to the configuration pages, browse to the Router by entering the URL in the location bar of your browser. The default URL is http://192.168.1.1 but if you changed the Router LAN IP address during initial configuration, use the new IP address instead. When you have browsed to the Router, log in using your system password (default admin).

Main Menu

At the left side of all screens is a main menu, as shown in Figure 26 on page 46. When you click on a topic from the main menu, that page will appear in the main part of the screen.

- Welcome — displays the firmware version of the Router, allows you to change your password, and launch the Wizard
- LAN Settings — allows you to configure IP address and subnet mask information, set up DHCP server parameters, and display the DHCP client list.
- Wireless Settings — enables /disables access from wireless computers, configures WPA/WPA2 or WEP encryption, provides facilities for improving the security of the wireless network, setup WMM parameters, Wireless mode selection, Mac Access Control and Advanced Wireless Settings.
- Internet Settings — sets up Internet addressing modes.
- Firewall — allows configuration of the Router's firewall features: Virtual Servers, Special Applications, Content Filtering, URL Filtering, Internet Access Policy, and SPI options.
- System Tools — allows the administrator to perform maintenance activities on the Router.

Downloaded from www.Manualslib.com manuals search engine

- Advanced — allows you to monitor and configure the Router's advanced features, including Static Route, RIP, DDNS, IPSec, Proxy ARP, Port Mapping and QoS(Quality of Service).
- Management — displays the current status and activity logs of the Router, SNMP enable/disable, and remote management control.
- Device Info — Providing the configuration summary and statistics on your LAN/WAN/ATM/ADSL connection.
- Support/Feedback — contains a comprehensive online help system and allows you to provide 3Com with feedback on your Router.

Option Tabs

Each corresponding menu page may also provide sub-sections which are accessed through the use of tabs (see Figure 26 for example). To access a sub-section, simply click on the required tab.

Getting Help

On every screen, a Help button is available which provides access to the context-sensitive online help system. Click *Help* for further assistance and guidance relating to the current screen.

Welcome Screen

The *Welcome* section allows you to view the Notice board and to change your Password. You can also gain access to the Configuration Wizard.

Notice Board

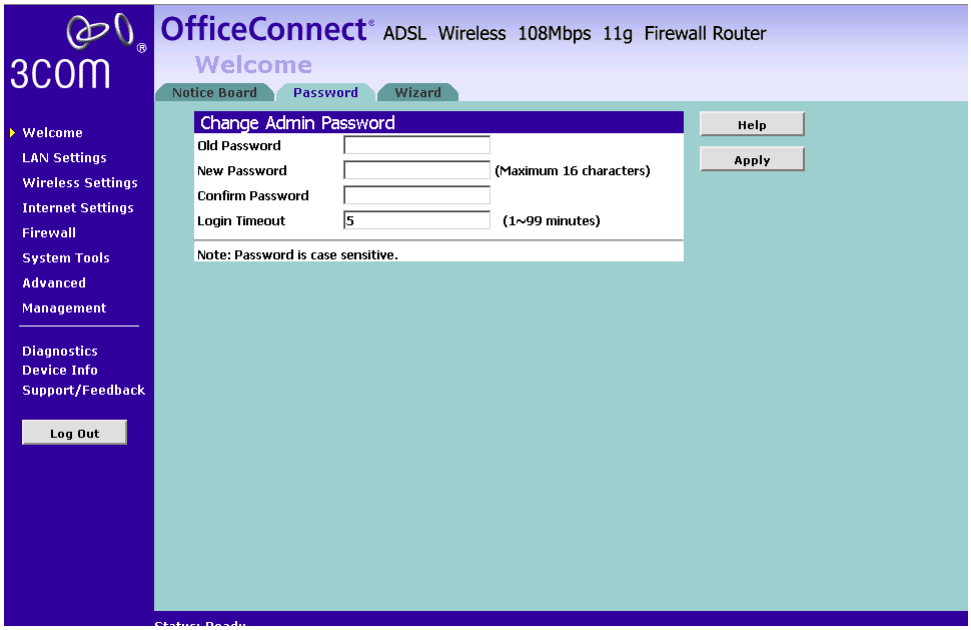
Figure 26 Notice Board Screen

Downloaded from www.Manualslib.com manuals search engine

The Notice Board is used to display firmware version and configuration warning messages. For example, you would be warned if you had disabled wireless networking or wireless encryption.

Password

Figure 27 Password Screen



Changing the Administration Password

You can change the password to prevent unauthorized access to the Administration System. To do this:

1. Enter the current password in the *Old Password* field
2. Enter the new password in the *New Password* field
3. Enter the new password again in the *Confirm Password* field
4. Click *Apply* to apply the new password

The password is case sensitive.

f you have forgotten your password you need to reset the Router.

Downloaded from www.Manualslib.com manuals search engine

Wizard

Figure 28 Wizard Screen

OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
Welcome
Notice Board
Password
Wizard
Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
System Tools
Advanced
Management
Diagnostics
Device Info
Support/Feedback
Log Out
Setup Wizard
This Wizard will help you quickly configure your Router to access the Internet. Once completed, you can use the left hand menu to access more configuration options. Please see the User Guide for further details.
To complete the Wizard you will need to know the information provided by your ISP, eg IP addresses,Usernames etc.If you are missing any information please contact your ISP.
Next >>
Cancel

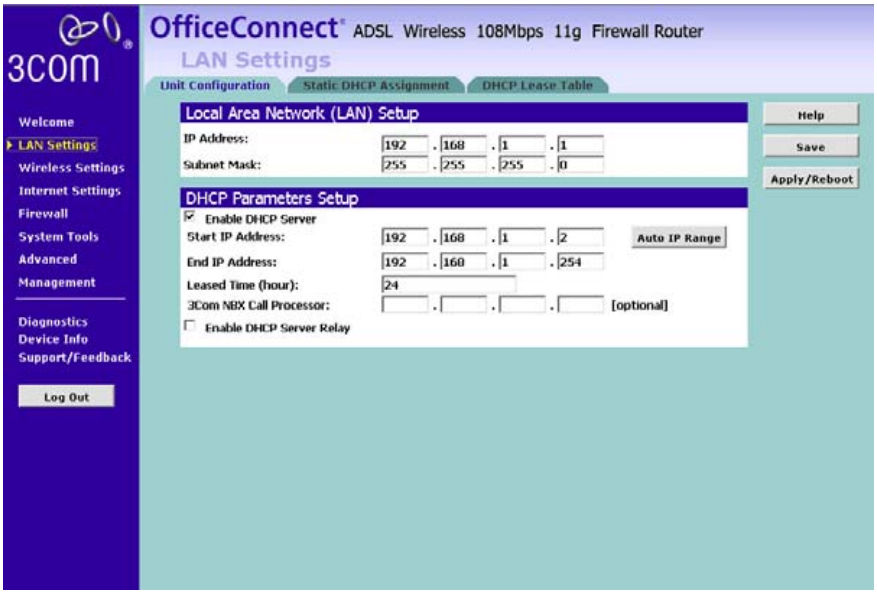
Click *WIZARD...* to launch the configuration wizard. Refer to Chapter 4 for information on how to run the wizard.

LAN Settings

The LAN Settings menu provides the following options:

Unit Configuration

Figure 29 Unit Configuration Screen



Downloaded from www.Manualslib.com manuals search engine

This screen allows you to change the IP address and subnet mask.

1 IP Address: Enter the IP Address for the router.

2 Subnet Mask: Enter the Subnet Mask for the router.

3 Enable DHCP server on the LAN: Check this box to enable the DHCP service on the router(enabled by default).

The Firewall Router contains a Dynamic Host Configuration (DHCP) server that can automatically configure the TCP/IP settings of every computer on your network.

4 Select *Enable the DHCP server* with the following settings*:* Enter the *start and end IP Address* of your DHCP range. Enter the leased time in hours to specify the frequency for DHCP assignment.Check all of your settings and click Save, then click *Apply*.

Auto IP Range: Click this to automatically allocate valid hosts in this network, ie, Class C. And there is 253(254-1 for the router) available addresses in the network.

5 3Com NBX Call Processor: If you have 3Com NBX Call Processor, enter its IP Address here.

6 Enable DHCP Server Relay: Check this box to make the device act as a DHCP relaying agent. Thus, it forwards DHCP requests to your existing DHCP server instead. Please enter your DHCP server's IP Address in the fields.

Downloaded from www.Manualslib.com manuals search engine

Static DHCP Assignment

Figure 30 Static DHCP Assignment Screen

To assign a LAN client with a static IP Address, please do the following:

1 Enter the IP Address that you would like to lease and the client MAC address in the fields appropriately.

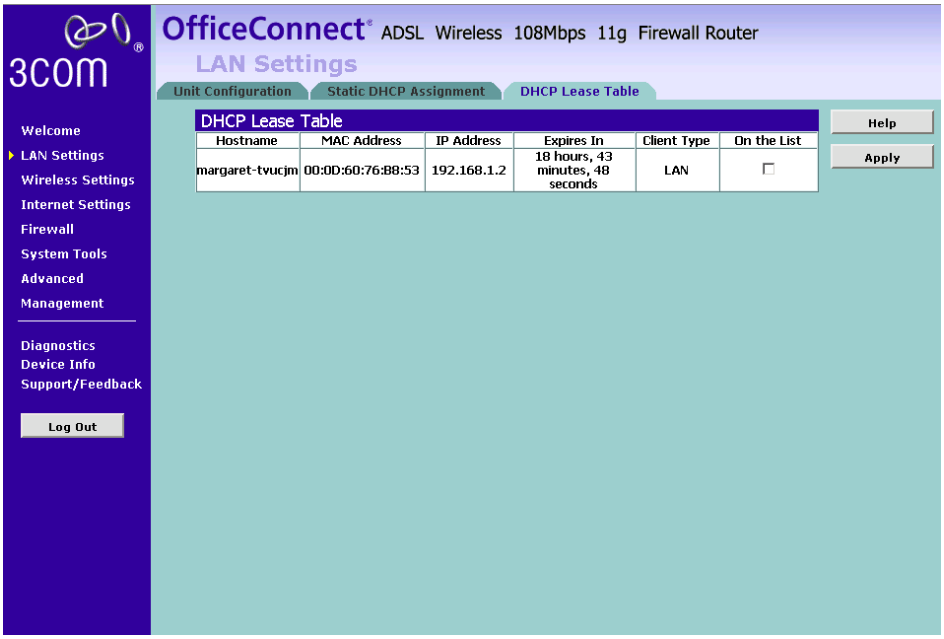
The MAC Address must be entered as 6 hexadecimal pairs, for example 12-34-56-78-90-ab.

Click *Apply* to apply your changes. The device will now reboot.

Downloaded from www.Manualslib.com manuals search engine

DHCP Lease Table

Figure 31 DHCP Lease Table Screen



The *DHCP Lease table screen* list the client's name, MAC Address, IP Address and Expiration time which reflects the value specified in DHCP server setting in "Unit Configuration"on this chapter.

Wireless Settings

The Wireless Settings menu provides options described in the following sections.

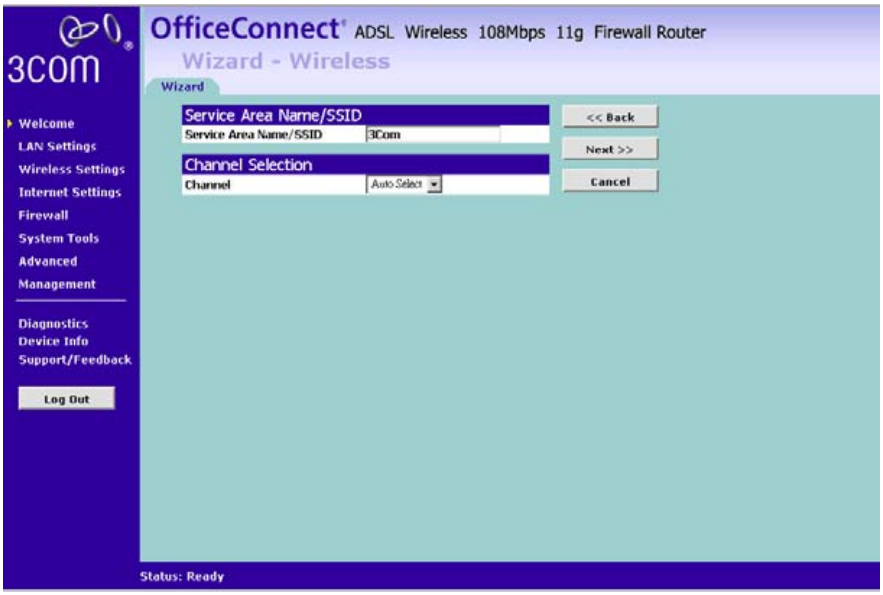
To improve the security of your wireless network, 3Com recommends that you:

1. *Change the SSID from its default value*
2. *Enable Encryption*
3. *Enable Connection Control*

Downloaded from www.Manualslib.com manuals search engine

Configuration

Figure 32 Configuration Screen



Enable Wireless Networking

Use this check box to enable or disable the wireless section of your LAN. When disabled, no wireless PCs can gain access to either the Internet or other PCs on your Wired or Wireless LAN through this Router.

Country Domain

Please select your country from the drop-down list.

Wireless Mode

You may choose from the menu to let your wireless network to operate in a 802.11b, 802.11g, SuperG, or Mixed 11b/11g which is the default.

Channel Selection

Select a number from the drop-down list to specify which Channel the Router will transmit and receive on. If another access point or Router nearby is using the same Channel as you, there will be a reduction in the performance of your network. If this seems to be the case, you should select a different channel number. Usually the Wireless computers will scan to find the correct channel, but if they don't you must configure them to use the same Channel number as the Router.

Downloaded from www.Manualslib.com manuals search engine

Choose the *Auto* option to automatically choose the clearest channel. The Router will check for the clearest channel whenever it is rebooted, powered up, and when the *Clear Channel Select* option is first applied.

Valid channels are country dependent. See "Regulatory Notices" *on page 137* *for a list of channels approved by each country.*

Service Area Name/SSID

This allows you to name your Wireless network. The *Service Area Name/SSID* field will accept any alphanumeric string and has a maximum length of 32 characters. Your Wireless computers must be configured with exactly the same name or you will not establish a connection. The Service Area Name may also be referred to as "ESSID" depending on your networking vendor. By default the Router uses the name "3Com". 3Com recommends that you change the default name.

In order that your wireless computers can connect to the Router, you must:

- Use Infrastructure Mode, not Ad hoc Mode.
- Have the same Service Area Name as the Router.
- Have the same Channel number as the Router.
- Use the same encryption type and keys as the Router.
- Ensure that the PC is not included in the denied Wireless PCs list if Connection Control is enabled. See page 59.

Enable Broadcast SSID

Disable this feature after you have installed your wireless network to improve the security of your network. When the check box is checked, the Router will broadcast the Service Area Name/SSID of your wireless network, which reduces the security of your Router as it allows any wireless client to see your wireless LAN.

If you have a wireless client that can detect all the available SSIDs in your area, your client will not list the Router SSID unless this feature is enabled. The clients will still be able to connect, provided that they are supplied with the SSID.

3Com recommends that you install your wireless network with this feature enabled and then disable it once you have set up the Router and wireless clients.

Downloaded from www.Manualslib.com manuals search engine

Profile Support for NICs

You may save your wireless settings here by clicking *Save Profile.* Please choose *Save to Disk* option when a dialog box opens. Thus, you may save your wireless settings to an external file and later on use this file to import the settings with supported 3Com Wireless Network Cards.

Encryption

When setting up wireless networks, it is important to remember that with encryption disabled, anyone with a Wireless PC can eavesdrop on your network. 3Com recommends that you get the network working with encryption disabled first and then enable it as the last step. This will simplify setting up your network.

The Router supports the following types of encryption:

- WPA/WPA2/Mixed WPA WPA2 — Wi-Fi Protected Access (WPA) is a subset of the IEEE 802.11i standard. Both WPA and WPA2 use Temporal Key Integrity Protocol (TKIP), Message Integrity Check (MIC) and IEEE 802.11x. In addition to TKIP, WPA2 also uses Advanced Encryption Standard (AES). The mixed mode will let you choose the encryption mechanism interchangeably with either TKIP or AES.
- WEP — Wireless Equivalent Privacy (WEP) is a 64 bit or 128 bit encryption method with user configurable fixed keys.
- WPA+Radius/WPA2+Radius/Mixed WPA WPA2 +Radius features using of a RADIUS server with the pre-shared key authentication method. (This should only be used when a RADIUS server is connected to the Router).

WPA and WPA2 provides a higher level of security, provided by its longer key and dynamic changes made to the key over time. 3Com recommends that you use WPA with any clients which support it.

If you enable encryption on the Router, you must reconfigure your wireless PCs to use exactly the same Encryption Type and Keys otherwise the devices will not understand each other.

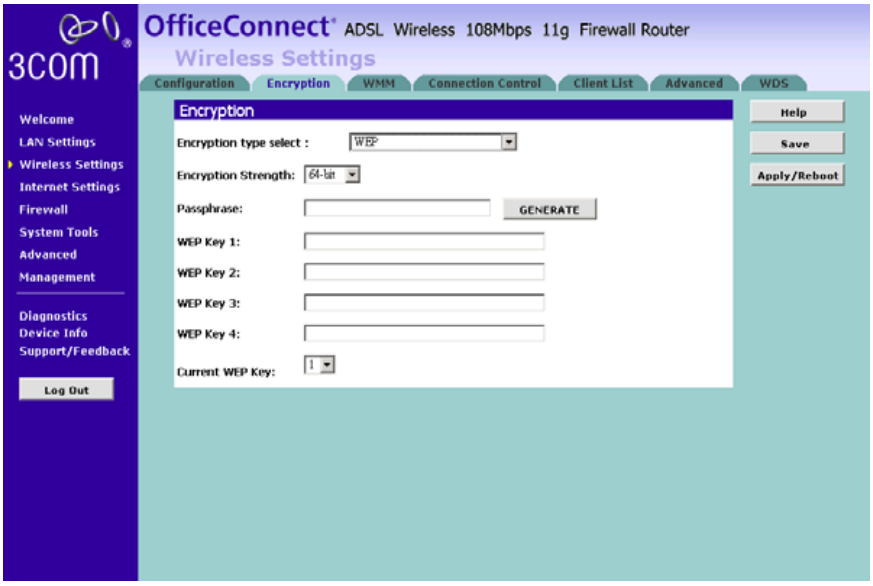
The encryption methods used by the Router secure data transmitted through wireless communications between the Router and its wireless clients. Enabling encryption has no security effect on data transmitted through wired (Ethernet) connections or through your connections to the Internet.

Downloaded from www.Manualslib.com manuals search engine

WEP

To enable WEP, select **WEP** from the **Encryption Type**.

Figure 33 Encryption — WEP



1. Please choose from 64 bits or 128 bits for the *Encryption Strength***.**
2. Enter the *Passphrase* which can be up to 31 characters long and may contain any alphanumeric characters in the field.
3. Click on *Generate* to generate 4 hex keys automatically. Virtually all manufacturers support this scheme. Hexadecimal numbers are formed from 0-9 and A-F. In 64 bit WEP, the passphrase will generate 4 different keys. However, in 128 bit WEP, this method only generates 1 key which is replicated for all 4 keys.
4. Manually assign each key. If you selected 64 bits encryption, enter 10 HEX characters (0-F) for each key. If you selected 128 bits encryption,enter 26 HEX characters (0-F) for each key.

If you encounter any difficulty when you enable WEP ensure that you check that each key on your wireless computer is exactly the same as each key on your Router. In other words, Key number 1 on the Wireless computer must have the same Hex number as Key number 1 on the Router, Key 2 on the Wireless computer must match Key 2 on the Router and so on.

5. **Current WEP Key**: Select a key to be the active key. You can change the selected key periodically to increase the security of your network.

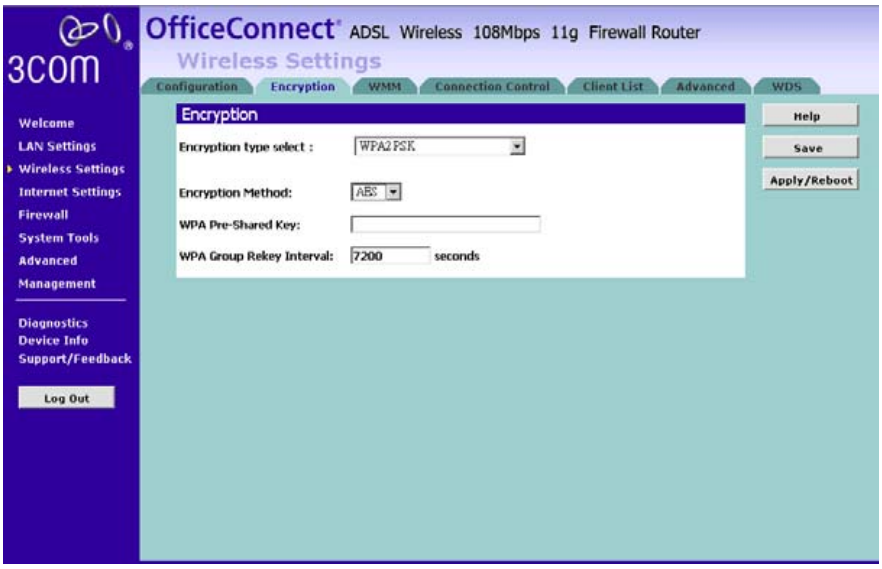
Downloaded from www.Manualslib.com manuals search engine

Click *Save* to save the setting.

WPA

To enable WPA, select **WPA-PSK** or **WPA2-PSK** from the **Encryption Type**.

Figure 34 Encryption — WPA



1 Select either TKIP or AES as the *Encryption Method*.

2 Enter a passphrase between 8 to 63 characters long for the *Pre-Shared Key*.

3 Enter the desired key renewal time in seconds for *WPA Group Rekey Interval*.

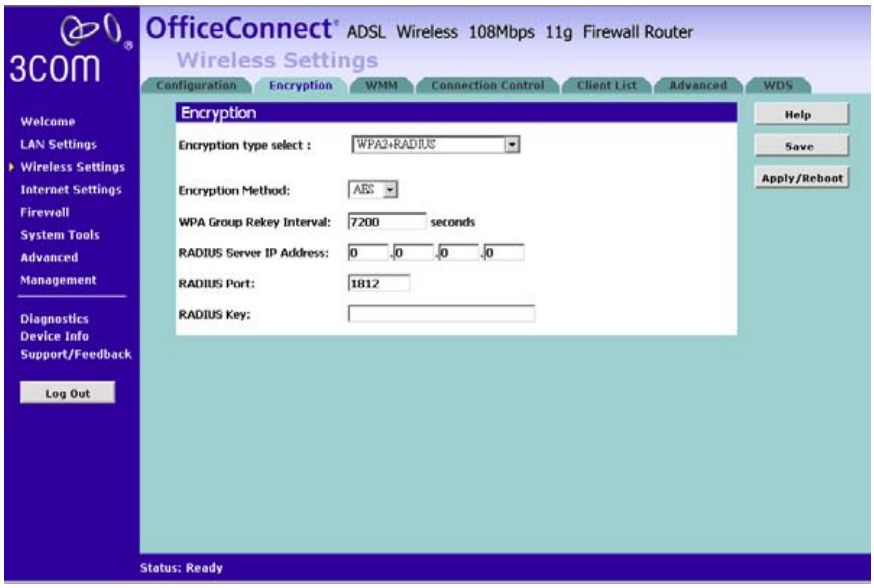
Click **Save** to save the setting.

WPA with RADIUS

If you are using a RADIUS server in your network for authentication, you may choose WPA or WPA2+ Radius from the Encryption Type.

Downloaded from www.Manualslib.com manuals search engine

Figure 35 Encryption — WAP/WPA2 with RADIUS



1. Select *Encryption Method* from the drop-down box.
2. Enter the frequency for Group Rekey Interval in seconds..
3. Enter the *RADIUS Server IP address*.
4. Enter the *RADIUS Port* number.
5. Enter your *RADIUS KEY* here.

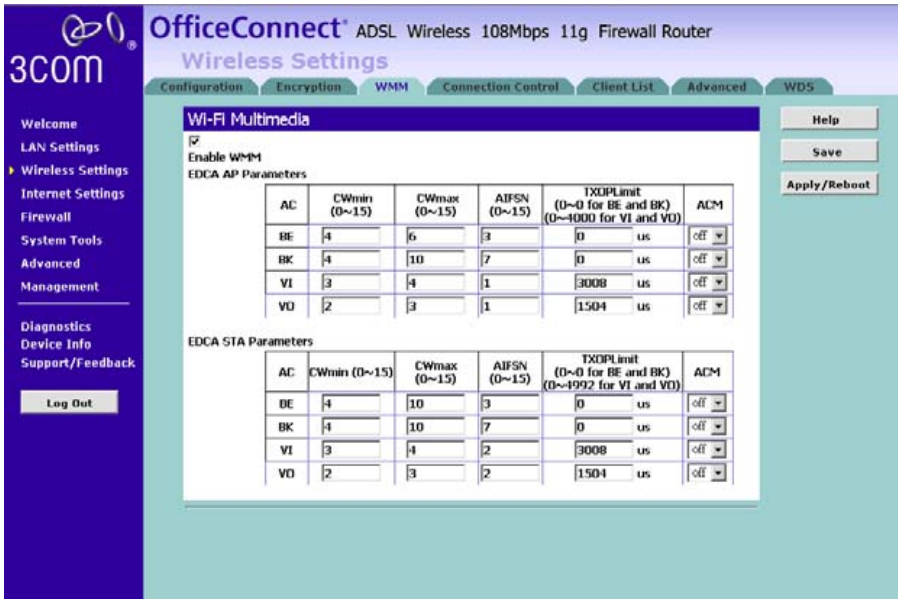
   Click *Save* to save the setting.

WMM You can enable Wi-Fi Multimedia (WMM) support to help improve the Quality of Service (QoS) for your wireless traffic.3Com recommends that you leave the settings unchanged if you are not sure with your configuration. Changing the values may lead to unexpected blockages of traffic on your wireless LAN, and the blockages might be difficult to diagnose.

WMM provides prioritized media access and is based on the Enhanced Distributed Channel (EDCA) method. The WMM screen gives two separate menus to set up the parameters; one is for Access Point and the other one is for Wireless Stations.

Downloaded from www.Manualslib.com manuals search engine

Figure 36 WMM Screen



Typically, voice and video traffic types are delay-sensitive, but are tolerant of some frame losses.On the other hand, data traffic type is delay-tolerable, but requires loss-free transmission. So you may adjust theses parameters with regard to the characteristics of these types of data to better manage your network flow.

AC (Access Category): *It uses 4 different ACs, from high to low: VO:Voice, VI: Video, BE:Best Effort, BK: Background*

AIFS (Arbitrary Interframe Space): An Interframe Space for different Access Category

TXOP (Transmission Opportunity): WMM (Wireless Multimedia) Transmission Opportunity: defined by IEEE 802.11e, the TXOP is the interval of time when a particular STA (station) has the right to initiate transmissions.

ACM (Admission Mandatory): Advertised in the EDCA parameter set element to indicate the admission control is required for each of the ACs.

EDCA AP Paramenters:

Theses values of AIFS, CWmin, and CWmax are announced by the AP via beacon frames. The AP can adapt these parameters dynamically depending on the network conditions. Basically, the smaller AIFS and CWmin, the shorter the channel access delay for the corresponding

Downloaded from www.Manualslib.com manuals search engine

priority, and hence the more capacity share for a given traffic condition.However, the probability of collisions increases when operating with smaller CWmin. These parameters can be used in order to differentiate the channel access among different priority traffic.

EDCA STA Parameters:

Each station maintains a Contention Window (CW), which is used to select the random back off counter.The BC is determined as a random integer drawn from a uniform distribution over the interval (0, CW).The CW size is initially assigned CWmin, and increases when a transmission fails, i.e., the transmitted data frame has not been acknowledged.After any unsuccessful transmission attempt, another back off timer is performed, with an upper bound of CWmax.This reduces the collision probability in case there are multiple stations attempting to access the channel.

CW min: should be smaller for delay-sensitive data

CW max: should be smaller for delay-sensitive data

AIFSN: should be smaller for delay-sensitive data

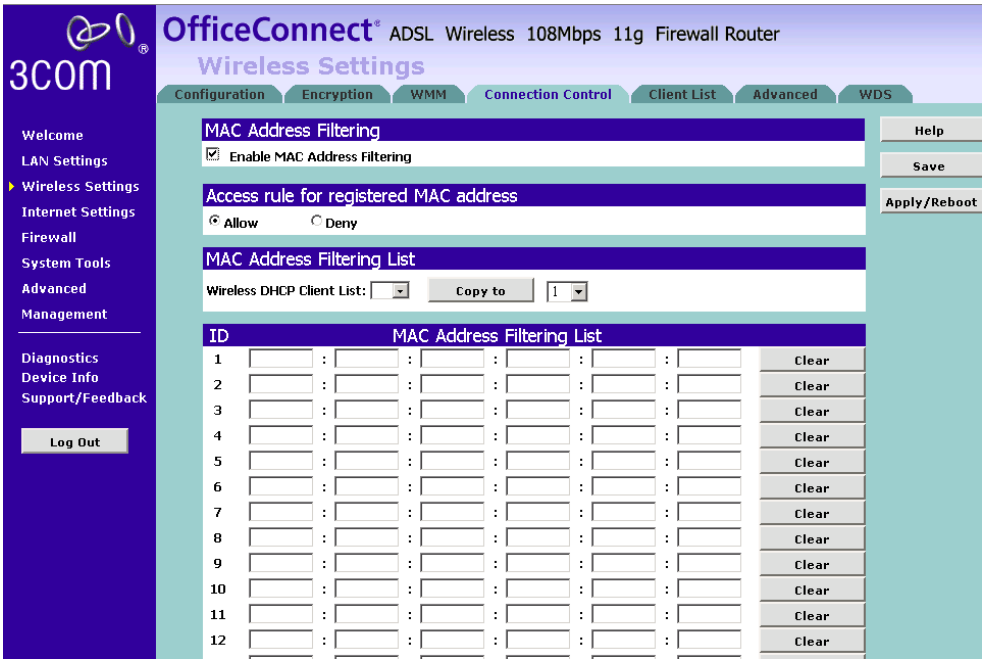
TXOPLimit: These will allow multiple MAC frames consecutively as long as the whole transmission time does not exceed the TXOP limit.So keep it larger for delay-sensitive data.

ACM: Admission Mandatory; could be turned on to mandatory execution of the contention control.

Connection Control You can restrict certain wireless clients from accessing the router by specifying their MAC address and enabling access restriction.

Downloaded from www.Manualslib.com manuals search engine

Figure 37 Connection Control Screen



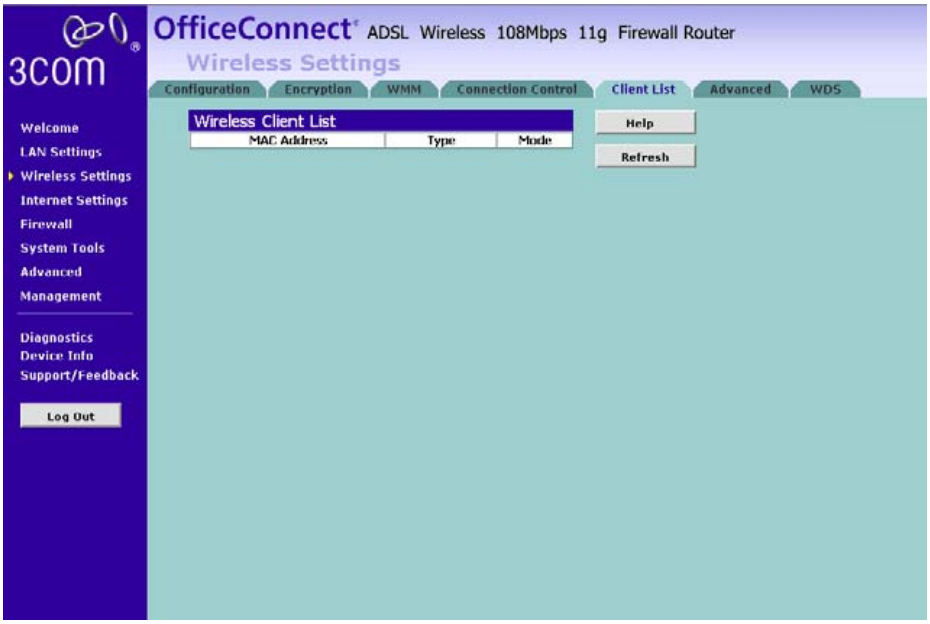
To specify that only certain wireless computers can connect to the Router, select *allow/deny*, and then enter the MAC addresses of the wireless clients. You may enter a maximum of 64 PCs in the list.

Click *Save* to save your existing configurations or *Cancel* to discard all changes.

Downloaded from www.Manualslib.com manuals search engine

Client List

Figure 38 Client List Screen



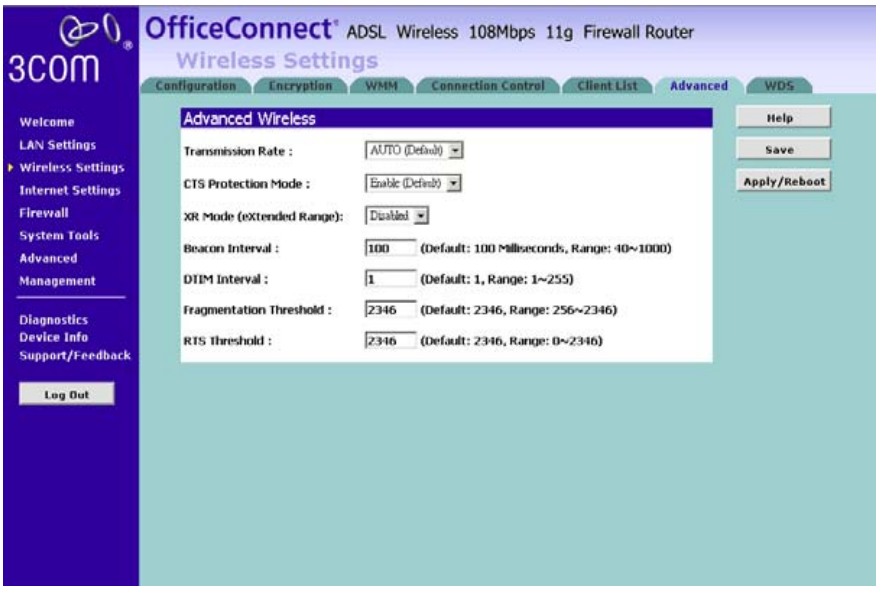
The Wireless Client List provides details on the devices that are connected to the Wireless LAN. The list is only created when Wireless Networking is enabled. For each device that is connected to the Wireless LAN, the MAC address and Connection Speed of that device is displayed. As you connect more devices to the Wireless LAN, the client list will grow to a maximum of 64 (the maximum number of wireless devices that the Router can support).

Advanced Wireless Settings

The router provides some advanced wireless functionalities to let the users better manage their wireless network.

Downloaded from www.Manualslib.com manuals search engine

Figure 39 Advanced Wireless Settings Screen



Authentication Type The default is set to Auto (Default), allows either Open System or Shared Key authentication to be used. With Open System authentication, the sender and the recipient do NOT use a WEP key for authentication. With Shared Key authentication, the sender and recipient use a WEP key for authentication.

Basic Rate The Basic Rate setting is not actually one rate of transmission but a series of rates at which the Router can transmit. The Router will advertise its Basic Rate to the other wireless devices in your network, so they know which rates will be used. The Router will also advertise that it will automatically select the best rate for transmission. The default setting is Default, when the Router can transmit at all standard wireless rates (1-2Mbps, 5.5Mbps, 11Mbps, 18Mbps, and 24Mbps). Other options are 1-2Mbps, for use with older wireless technology, and All, when the Router can transmit at all wireless rates. The Basic Rate is not the actual rate of data transmission. If you want to specify the Router's rate of data transmission, configure the Transmission Rate setting.

Transmission Rate The rate of data transmission should be set depending on the speed of your wireless network. You can select from a range of transmission speeds, or you can select Auto (Default) to have the Router automatically use the fastest possible data rate and enable the

Downloaded from www.Manualslib.com manuals search engine

Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the Router and a wireless client. The default value is Auto (Default).

Transmission Power (Transmit Power Control) The greater the transmission power used, the larger the area a wireless network covers. To minimize the likelihood of eavesdropping by unauthorized wireless users, do not use more transmission power than necessary to cover the range needed by your wireless network. Try using the Router at different levels of transmission power, and determine how much power is needed to reach the wireless client, such as a PC or access point, that is farthest from the Router. Then select the appropriate level, Full (Default), Half, Quarter, Eighth, or Min, from the drop-down menu. The default is Full (Default).

CTS Protection Mode CTS (Clear-To-Send) Protection Mode should be set to Auto (Default). The Router will automatically use CTS Protection Mode when your Wireless-G products are experiencing severe problems and are not able to transmit to the Router in an environment with heavy 802.11b traffic. This function boosts the Router's ability to catch all Wireless-G transmissions but will severely decrease performance. If you do not want to use CTS Protection Mode at all, select Disabled.

XR Mode The Extended Range mode can be enabled to further extend the wireless coverage to eliminate dead spots or corners in your office.

Frame Burst Mode Enabling this option should provide your network with greater performance, depending on the manufacturer of your wireless products. If you are not sure how to use this option, keep the default, Enabled.

Beacon Interval The default value is 100. The Beacon Interval value indicates the frequency interval of the beacon. A beacon is a packet broadcast by the Router to synchronize the wireless network.

DTIM Interval This value indicates the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the Router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. Its clients hear the beacons and awaken to receive the broadcast and multicast messages. The default value is 1.

Downloaded from www.Manualslib.com manuals search engine

Fragmentation Threshold This value specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increase the Fragmentation Threshold. Setting the Fragmentation Threshold too low may result in poor network performance. Only minor reduction of the default value is recommended. In most cases, it should remain at its default value of 2346.

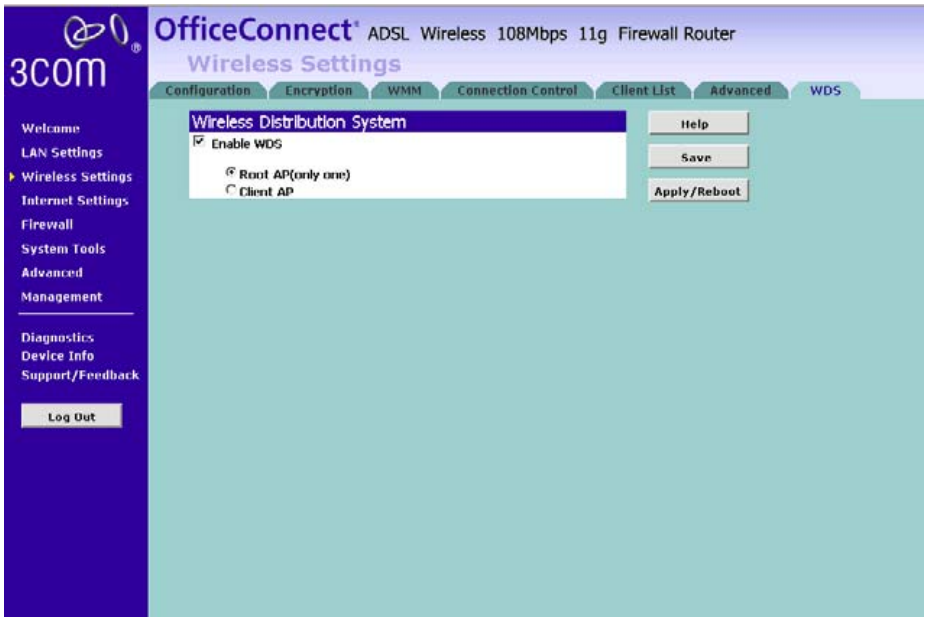
RTS Threshold Should you encounter inconsistent data flow, only minor reduction of the default value, 2347, is recommended. If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled. The Router sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving an RTS, the wireless station responds with a Clear to Send frame to acknowledge the right to begin transmission. The RTS Threshold value should remain at its default value of 2346.

Do not alter these parameters unless you understand the implications.

WDS WDS (Wireless Distribution System) is comprised of a bridging and/or a repeater mode. The Router supports the Wireless Distribution System (WDS) repeater mode. WDS repeating enables one or more Access Points to rebroadcast received signals to extend range and reach, though this can affect the overall throughput of data.

Downloaded from www.Manualslib.com manuals search engine

Figure 40 WDS Screen



To setup a WDS, make sure that the following conditions are met for all of the linked APs:

1. Both AP's WDS should be enabled.
2. APs are configured with the same Channel, SSID and Encryptions.
3. Each AP should have a different IP Address.

Internet Settings

Before you can configure the Router, you need to know the IP information allocation method used by your ISP. There are five different ways that ISPs can allocate IP information, as described below:

1 **PPPoA (PPP over ATM)**

The ISP provides the IP addressing information for you to enter manually. To configure the Router you will need to know the following:

- User name
- Password
- Authentication Method

Downloaded from www.Manualslib.com manuals search engine

2 PPPoE

PPP over Ethernet, provides routing for multiple PCs, this mode is often used for the DSL connection. To configure this function correctly, you should obtain the information from your ISP.

3 Dynamic/Fixed IP in 1483 Bridge Mode

In this mode of connection, your ADSL router simply acts like a modem but can also carry multiple upper-layer protocols such as IP, IPX, and NetBIOS. Please consult your ISP for the necessary configuration information.

4 IPoA (IP over ATM)

It is a technique which transmits IP packets over the ATM network. Please consult your ISP for the necessary configuration information.

5 Bridging Mode

In this mode, your ADSL router simply acts like a modem when connecting to the internet. Thus, you may have seperate DSL connections behind via a computer or router. Enter the following parameters in the configuration:

VPI: Virtual Path Identifier(from 0 to 255), which is assigned by your ISP.

VCI: Virtual Channel Identifier(from 32 to 65535), which is assigned by your ISP.

Encapsulation Mode: Select from either VC or LLC.

Firewall

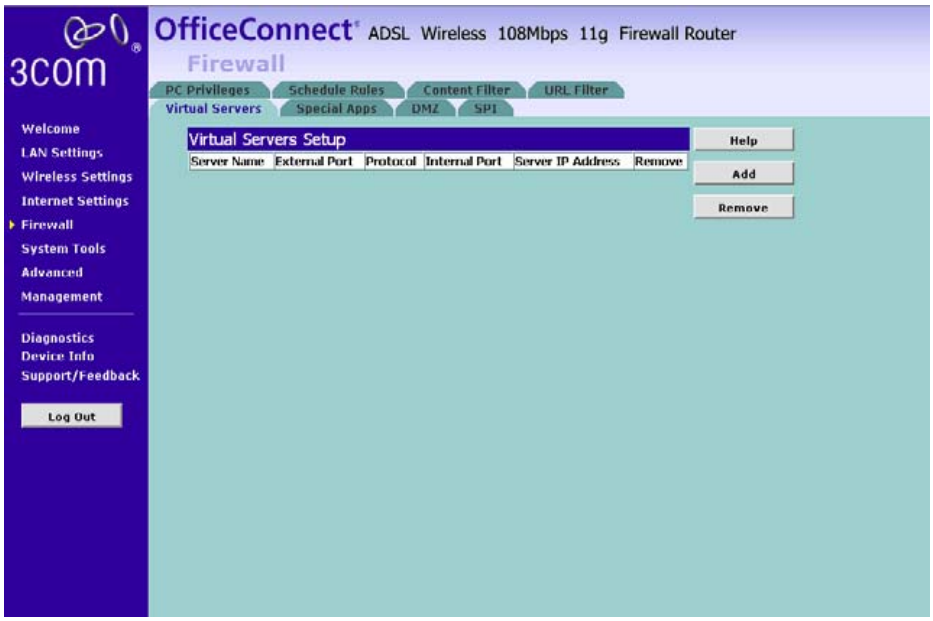
On the main frame of the *Firewall* setup screen is a menu with eight tabs: *Virtual Servers*, *Special Applications*, *DMZ, SPI*, *PC Privileges, Schedule Rules, Content Filter*, *and URL Filter*.

Virtual Servers

Selecting the *Firewall* option on the main menu displays the Virtual Servers setup screen.

Downloaded from www.Manualslib.com manuals search engine

Figure 41 Virtual Servers Screen



Virtual Server

Activating and configuring a virtual server allows one or more of the computers on your network to function as a public server. For example, one of your computers could be configured as an FTP server, allowing others outside of your office network to download files of your choosing. Or, if you have created a Web site, you can configure one of your computers as a Web server, so that others can view your Web site.

To configure a virtual server:

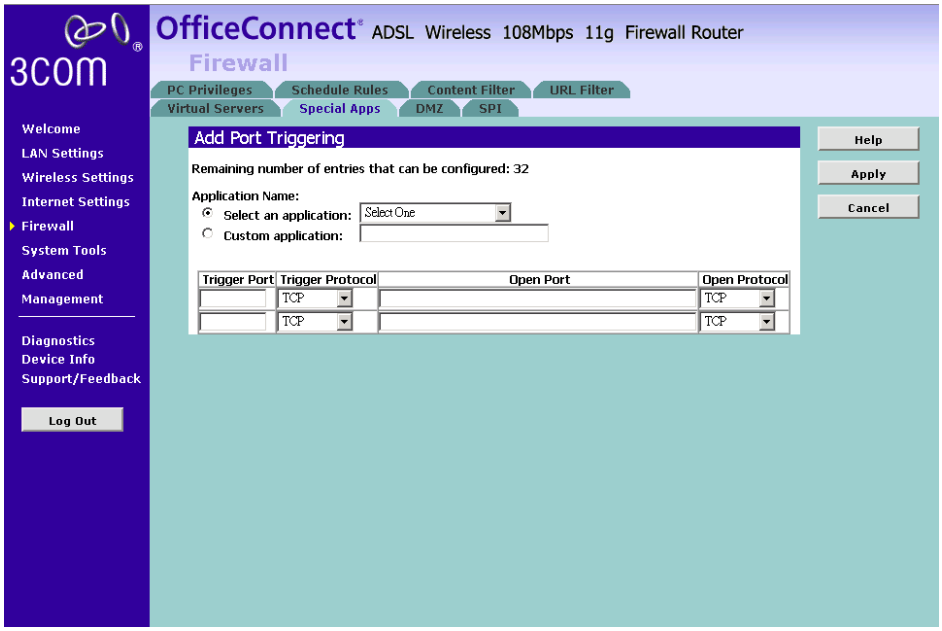
1. Select an application from the drop-down menu or fill in the blank fields to specify your own application.
2. The port(s) that will be used will be shown for a common application or you may enter the port numbers required for that service if it is not pre-defined.
3. Enter the last digit of the LAN server IP address.
4. Click *Apply* to apply the changes.

The port numbers are specified using a comma-separated list, with dash to denote port number ranges. So for example, entering *2, 3, 5-7* would cause ports 2, 3, 5, 6, and 7 to be activated.

Downloaded from www.Manualslib.com manuals search engine

Special Applications

Figure 42 Special Applications Screen



Some software applications require special or multiple connections to the Internet and these would normally be blocked by the firewall. For example Internet Telephony or Video conferences require multiple connections.

So that these special applications can work properly and are not blocked, the firewall needs to be told about them. In each instance there will be a trigger port and incoming port(s), where traffic on the trigger port tells the firewall to open the incoming ports.

Each defined Special Application only supports a single computer user, and up to32 Special Applications can be defined. Any incoming ports opened by a Special Application trigger will be closed after five minutes of inactivity.

To configure special applications:

1. Click *Add* to open the Special Applications screen.
2. Select an application from the drop-down menu or enter the application name.
3. Enter the Triggered port and the forwarded range in the text boxes.
4. Select the Enabled box to make it activated.

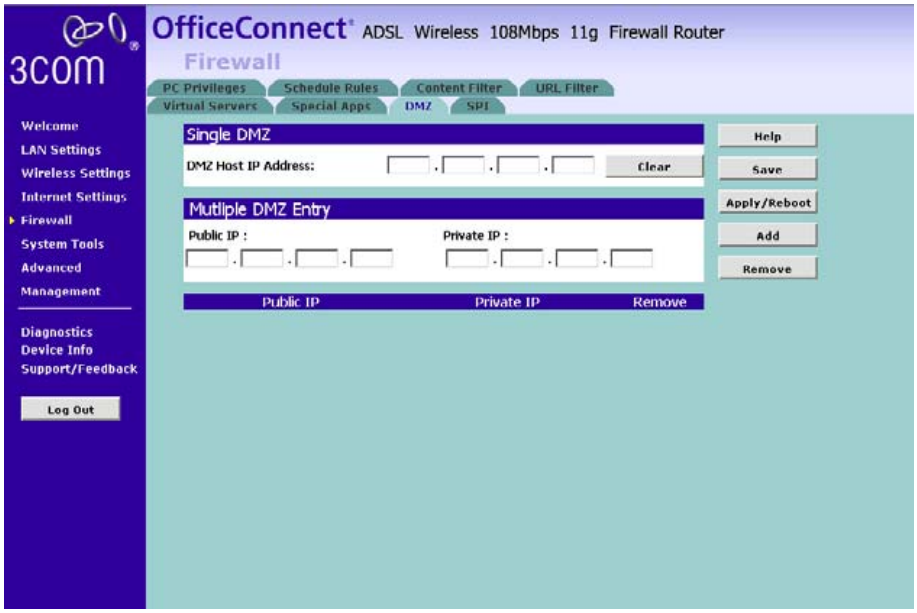
Downloaded from www.Manualslib.com manuals search engine

5 Click *Apply* to save the configuration and apply the changes.

The Router will automatically allow FTP and NetMeeting sessions. You do not need to configure these as Special Applications.

Only one computer on your network can use the special application at any one time.

DMZ **Figure 43** DMZ Screen



DMZ (De-Militarized Zone) Host is a computer without the protection of the firewall. This feature allows a single computer to be exposed to unrestricted 2-way communication from outside of your network. This feature should be used only if the Virtual Server or Special Applications options do not provide the level of access needed for certain applications.

Single DMZ

To configure one of your computers as a DMZ host, enter the IP address of the computer in the *DMZ Host IP Address*, and then click *Save/Apply*.

Multiple DMZ

You may enable the multiple DMZ function if you have more than one registered public IP assigned to your server. Please enter the Public IP

Downloaded from www.Manualslib.com manuals search engine

Address and the corresponding LAN IP Address in the fields and click *Add* to add the Entry. Click *Apply/Reboot* to apply your settings.

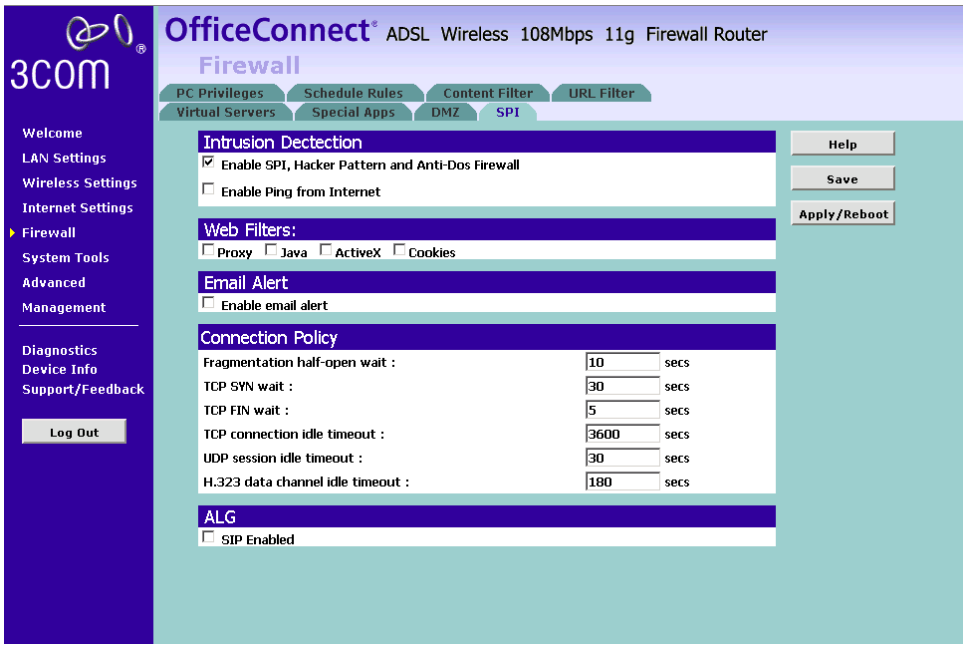
SPI Stateful Packet Inspection (SPI) inspects, and if required blocks packets at the application layer. SPI also maintains TCP and UDP session information, including timeouts and the number of active sessions, and provides the ability to detect and prevent certain types of network attacks such as DoS attacks.

Denial of Service (DoS) attacks are aimed at devices and networks with a connection to the Internet. The goal is not to steal information, but to disable a device or network so users no longer have access to network resources.

To configure SPI information on your Router:

1 Select *Firewall* from the main menu, then select the *SPI* tab to display the SPI screen:

Figure 44 SPI Screen



Intrusion Detection: Check on the box to enable the Stateful Packet Inspection (SPI), Hacker Pattern detection and Denial of Services(DoS) features to further guard your networks from internet attacks.

Downloaded from www.Manualslib.com manuals search engine

Email Alert:: Use this feature if you want the router to send you an email if a DoS attack has attempted.

Connection Policy: These settings determine the timeouts between the router's recognizing and blocking DoS attempts before allowing legitimate traffic using these protocols to be permitted.

Do not adjust these settings unless you are confident in your reconfigured settings.

ALG: Check this box if you use a SIP phone with the router.

PC Privileges

Figure 45 PC Privileges Screen

Select *PC Privileges* to display the PC Privilege setup screen.

Access from the local network to the Internet can be controlled on a computer-by-computer basis. In the default configuration the Router will allow all connected computers unlimited access to the Internet.

PC Privileges allows you to assign different access rights for different computers on your network.

Downloaded from www.Manualslib.com manuals search engine

To use access control for the computers:

1. Enter the PC's description and the range of the ip addresses.
2. Select to bypass the URL or Content Filter if you would like the clients to bypass the rules.(Please refer to the *URL* or *Content Filter* tab)
3. Please select to block specific services or protocols.
4. You may also block additional ports by listing the port range in the User Defined Blocked Ports.
5. To apply a time schedule to the rule, set up a schedule rule on the *Scheduled Rules* tab, and then select the named rule in the pull-down list.
6. Click *Save* to save the settings or *Cancel* to discard them.

To assign different access rights for different computers, click *Add PC* at the *PC Privileges* screen. You can create up to 10 policies.

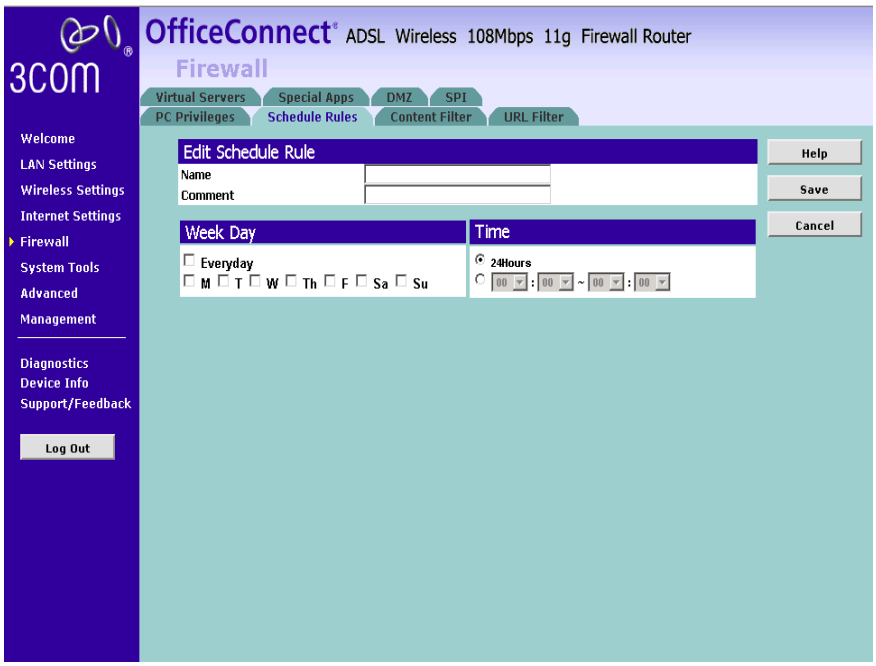
Schedule Rules

You can also schedule when PCs can access the Internet. By default, all PCs can access the internet all day, every day. The Schedule Rules work in conjuction with the *PC Privileges* so you can schedule when PCs can access the Internet.

To add the schedule:

Downloaded from www.Manualslib.com manuals search engine

Figure 46 The Schedule Rules Screen



1 Click **Add Rule** at the *Schedule Rules* screen.

2 Enter the Schedule name and give a brief description.

3 Check the appropriate check box for each day you want to block access, and enter the times for each day in 24-hour clock format.

Content Filter

You can subscribe to the 3Com Content Filter Service, which enables you to block or allow the URLs of a number of pre-defined categories.

The Router comes with a 14-day free trial of the 3Com Content Filter Service. To activate the 14-day free trial of the service, you must first register your Router at **www.3com.com**. *To continue using the service after the trial period, you must purchase the full 3Com Content Filter Service (3CSBCFS).*

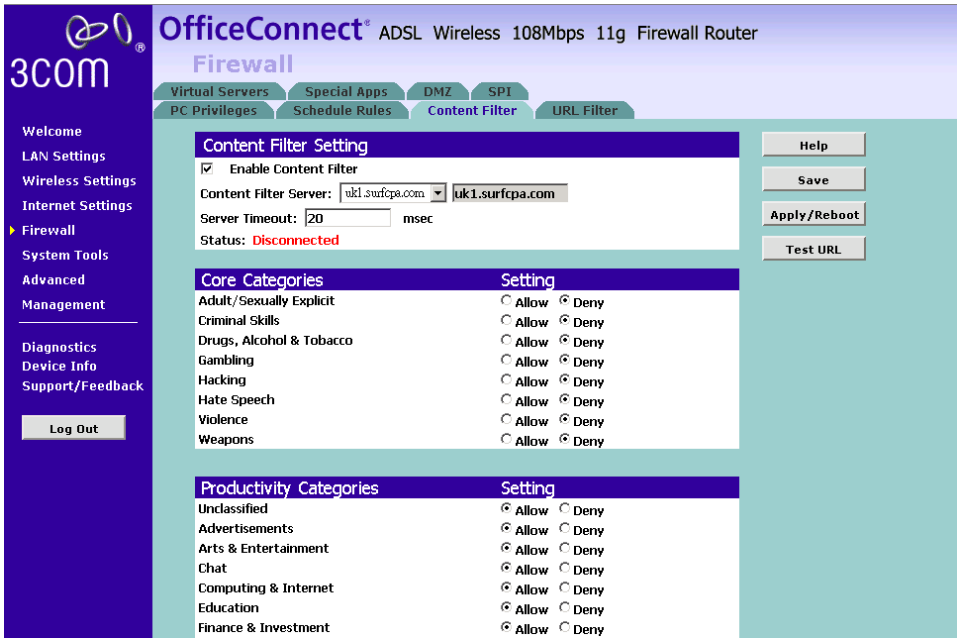
URL filtering rules supersede content filtering rules. If the 3Com Content Filter is blocking certain Web sites that you want to allow, you can add these sites to URL Filter's allow list.

Downloaded from www.Manualslib.com manuals search engine

To activate Content Filtering:

1 Select *Firewall* from the main menu, then select the *Content Filter* tab. The Content Filter screen displays.

Figure 47 Content Filter Screen



2 Make sure the *Enable Content Filter* check box is checked.

3 Select the *Content Filter Server* that you require from the drop-down list. If you select *custom entry*, enter the server IP address in the text box.

4 Select the *Server Timeout* value in milliseconds. The default is 3000 milliseconds (3 seconds).

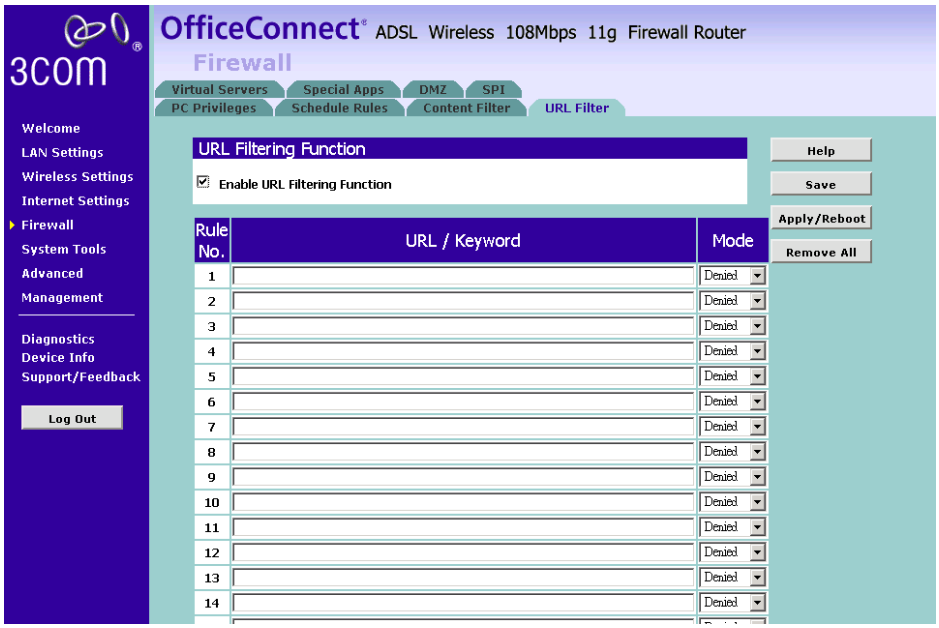
5 Select *Allow* or *Deny* for each displayed category, as required.

Click *Save* To Save The Changes and *Apply* to apply The Settings.

URL Filter Select the *URL Filter* tab to set the websites that you want your clients to be able or not able to access.

Downloaded from www.Manualslib.com manuals search engine

Figure 48 The URL Filter Screen



To enable the URL Filtering, please do the following:

1 Check the **Enable URL Filtering Function** box to enable the URL filtering.

2 Enter the URL or key words of the URL in the text field for your desired website.

To filter a specific site, enter the URL for that site. For example, to stop your users from browsing a site called **`www.badsite.com`**, enter **`www.badsite.com`** or **`badsite.com`** in one of the fields.

If badsite.com has multiple sub-domains, such as this.badsite.com and that.badsite.com then you can either:

- Block them individually by entering **`this.badsite.com`** in one field and **`that.badsite.com`** in another.
- or
- Block them by entering the keyword **badsite.com** into one of the fields. This will block all URLs containing the string *badsite.com*. As well as blocking **this.badsite.com** and **that.badsite.com**, the keyword *badsite.com* would block searches that mentioned badsite.com in their domain name, for example **www.notabadsite.com**.

Downloaded from www.Manualslib.com manuals search engine

To filter a generic keyword enter it into one of the fields. You should exercise caution when choosing a keyword as many keywords are contained within other words. For example, filtering the word sex would filter the following example URLs:

- www.sussex.com
- www.thisexample.com

You can filter up to 30 keywords and URLs.

3 Please select from the mode to whether allow or deny the URL.Since **URL Filter** supersedes **Content Filter**, you may list your allowed URL here.

The Router filters all traffic from domains that have been blocked using the URL filter. If you need to access an external mail server, FTP server or other named device outside your network, you must list it in one of the allow fields.

Computers that should not be subject to URL filtering can be excluded by listing them as the full access PC's IP Addresses in the Filter Policy Tab.

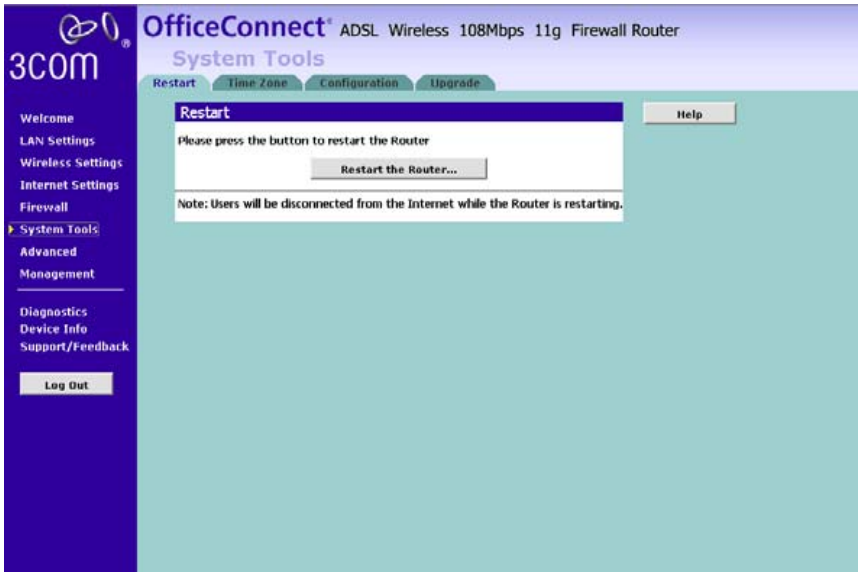
System Tools

The main frame of the System Tools screen includes four administration items: *Restart, Time Zone, Configuration,* and *Upgrade* .

Downloaded from www.Manualslib.com manuals search engine

Restart

Figure 49 Restart Screen

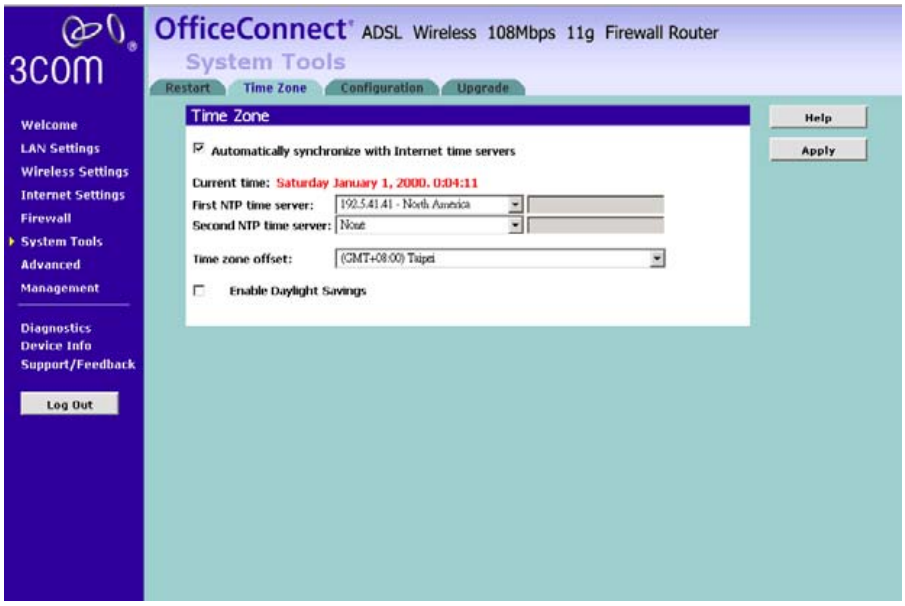


If your Router is not operating correctly, you can choose to restart the Router by selecting *Restart the Router*, simulating the effect of power cycling the unit. No configuration information will be lost but the log files will be erased. This function may be of use if you are experiencing problems and you wish to re-establish your Internet connection. Any network users who are currently accessing the Internet will have their access interrupted whilst the restart takes place, and they may need to reboot their computers when the restart has completed and the Router is operational again.

Downloaded from www.Manualslib.com manuals search engine

Time Zone

Figure 50 Time Zone Screen



Choose the time zone that is closest to your actual location. The time zone setting is used by the system clock when displaying the correct time in the log files.

If you use Daylight saving tick the *Enable Day Light savings* box, and then click *Save*.

The Router reads the correct time from NTP servers on the Internet and sets its system clock accordingly. The Daylight Savings option merely advances the system clock by one hour. It does not cause the system clock to be updated for daylight savings time automatically.

Downloaded from www.Manualslib.com manuals search engine

Configuration

Figure 51 Configuration Screen

OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
System Tools
Restart
Time Zone
Configuration
Upgrade
Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
System Tools
Advanced
Management
Diagnostics
Device Info
Support/Feedback
Log Out
Help
Backup Configuration
Please press the - Backup - button to save configuration data to your PC
Backup...
Restore Configuration Data
Please select the location of a previously backed-up configuration file on your PC using the browse button below, then press the- Restore - button.
Browse...
Restore...
Note: You need to make sure the 'Files of type' is set to 'All files (*.*)' to see the file.
Reset to Factory Default
Please press the - Reset - button to restore configuration to factory default
Reset...
Note: All current configuration will be lost.

Select the *Configuration* tab to display the *Configuration* screen.

Backup Configuration

Click *BACKUP* to save the current Router configuration. You will be prompted to download and save a file to disk.

Restore Configuration Data

If you want to reinstate the configuration settings previously saved to a file, press *Browse* to locate the backup file on your computer, and then click *RESTORE* to copy the data into the Router's memory.

The password will remain unchanged.

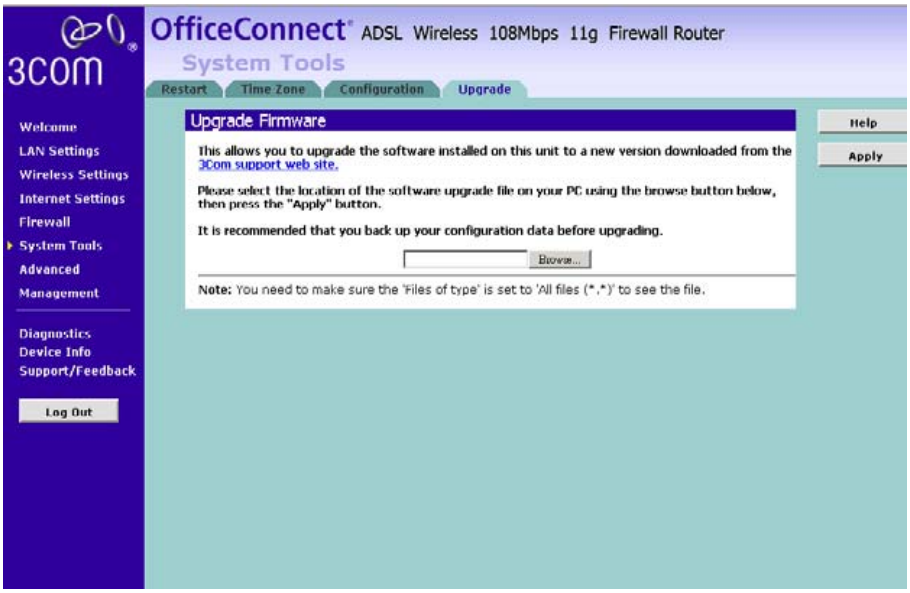
Reset to Factory Default

If you want to reset the settings on your Router to those that were loaded at the factory, click *RESET*. You will lose all your configuration changes. The Router LAN IP address will revert to 192.168.1.1, and the DHCP server on the LAN will be enabled. You may need to reconfigure and restart your computer to re-establish communication with the Router.

Downloaded from www.Manualslib.com manuals search engine

Upgrade

Figure 52 Upgrade Screen


OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
System Tools
Restart
Time Zone
Configuration
Upgrade
Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
System Tools
Advanced
Management
Diagnostics
Device Info
Support/Feedback
Log Out
Upgrade Firmware
This allows you to upgrade the software installed on this unit to a new version downloaded from the 3Com support web site.
Please select the location of the software upgrade file on your PC using the browse button below, then press the "Apply" button.
It is recommended that you back up your configuration data before upgrading.
Browse...
Note: You need to make sure the 'Files of type' is set to 'All files (*.*)' to see the file.
Help
Apply

The Upgrade facility allows you to install on the Router any new releases of system software that 3Com may make available. To install new software, you first need to download the software from the 3Com support web site to a folder on your computer. Once you have done this, select *Browse* to tell your web browser where this file is on your computer, and then click *Apply*. The file will be copied to the Router, and once this has completed, the Router will restart. Although the upgrade process has been designed to preserve your configuration settings, it is recommended that you make a backup of the configuration beforehand, in case the upgrade process fails for any reason (for example, the connection between the computer and the Router is lost while the new software is being copied to the Router).

The upgrade procedure can take up to four minutes, and is complete when the Alert LED has stopped flashing and is permanently off. Make sure that you do not interrupt power to the Router during the upgrade procedure; if you do, the software may be corrupted and the Router may not start up properly afterwards. If the Alert LED comes on continuously after a failed upgrade, refer to Chapter 6, "Troubleshooting".

Downloaded from www.Manualslib.com manuals search engine

Advanced

Selecting *Advanced* from the main menu displays the following seven tabs in your Web browser window: *Static Route*, *RIP*, *DDNS*, *Quality of Service, ProxyARP, Port Mapping, and IPSec*.

Static Route

The Router supports static route functionality. Select the *Static Route* tab to display the screen.

Figure 53 Static Route screen

Please enter the following values in the box respectively to specify a static route:

- Network Address — the network address of the route. If network address and subnet mask are both set to 0.0.0.0, this is the default route.
- Subnet Mask — the subnet mask of the route. If network address and subnet mask are both set to 0.0.0.0, this is the default route.
- Gateway — the gateway used to route data to the network specified by the network address.
- The network interface associated with the IP address.

RIP

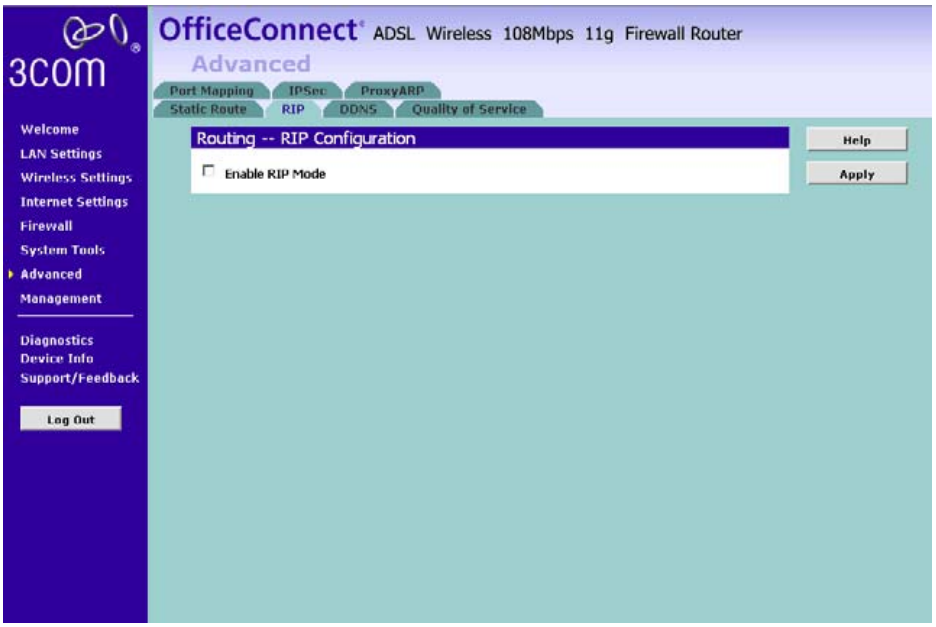
The Router supports the Routing Information Protocol (RIP). RIP allows you to set up routing information on one RIP enabled device, and have

Downloaded from www.Manualslib.com manuals search engine

that routing information replicated to all RIP enabled devices on the network. LAN and WAN interfaces can be configured independently of each other.

Select the RIP tab to display the screen.

Figure 54 RIP screen



Setting Up RIP

Check the *Enable RIP Mode* check box if you want the Router to start routing via RIP.

1. Select either *1* (for RIPv1) or *2* (for RIPv2) from the *Version* drop-down list.
2. Select from either *Passive* or *Active* in the *Operation* drop-down list. If you select *Active*, the Router transmits RIP update information to other RIP enabled devices. If you select *Passive*, the Router only receives RIP update messages.
3. Check to **Enable** the process.

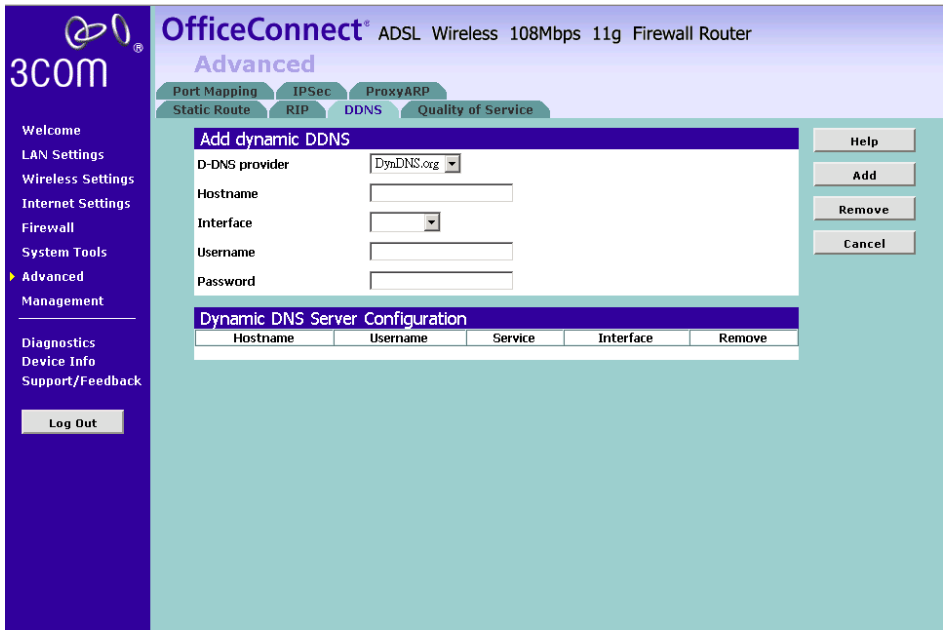
DDNS Dynamic Domain Name Server (DDNS) enables you to map a static domain name to a dynamic IP address. The Router supports five DDNS providers, TZO.com, DYNDNS.org, Zoneedit, NO-IP, DtDns. Before you can set up DDNS, you must obtain an account, password and static domain name from your DDNS provider. DDNS is disabled by default.

Downloaded from www.Manualslib.com manuals search engine

To set up DDNS:

1 Select *Advanced* from the main menu, then select the *DDNS* tab. The DDNS screen displays.

Figure 55 DDNS screen



2 Select a *DDNS Service* provider from the drop-down list. This can be TZO.com, DynDNS.org, DtDns, NOIP or Zoneedit.com.

TZO.com

If you select TZO.com:

1 In the *Domain Name* text box, enter the domain name.

2 In the *Username/E-mail* text box, enter the account name.

3 In the *Key* text box, enter the account password.

4 In the *Refresh Time* box, enter how often you want the service to automatically refresh, in days. The default is three days.

5 Click *Apply* to make this service active.

DynDNS.org/DtDns.com/Zoneedit.com

If you select DYNDNS.org, DtDns, or Zoneedit.com:

1 In the *Host Name* text box, enter the host name.

2 In the *Username* text box, enter the account name.

Downloaded from www.Manualslib.com manuals search engine

3 In the *Password* text box, enter the account password.

4 Click *add* to add your DDNS.

NOIP.com

1 In the *Host Name* text box, enter the host name.

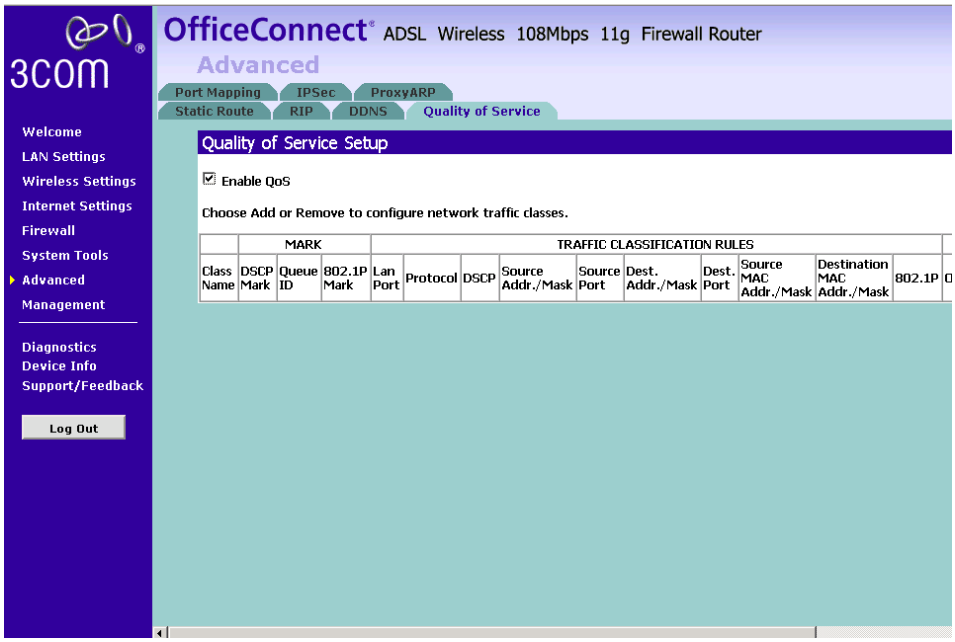
2 In the *E-mail* text box, enter the account name.

3 In the *Password* text box, enter the account password.

4 Click *save* to save the changes and *Apply* to make this service active.

Quality of Service

Figure 56 QoS Screen



This screen lists the QoS classifiers or policy. A classifier groups upstream traffic into data flows according to specific criteria such as the source addresses, destination addresses, source ports or destination ports. The policy also assigns a specific Priority queue, DSCP mark or ToS value. Please enter your settings into the fields provided.

Please do not alter any settings unless you are an experienced network administrator.

Proxy ARP

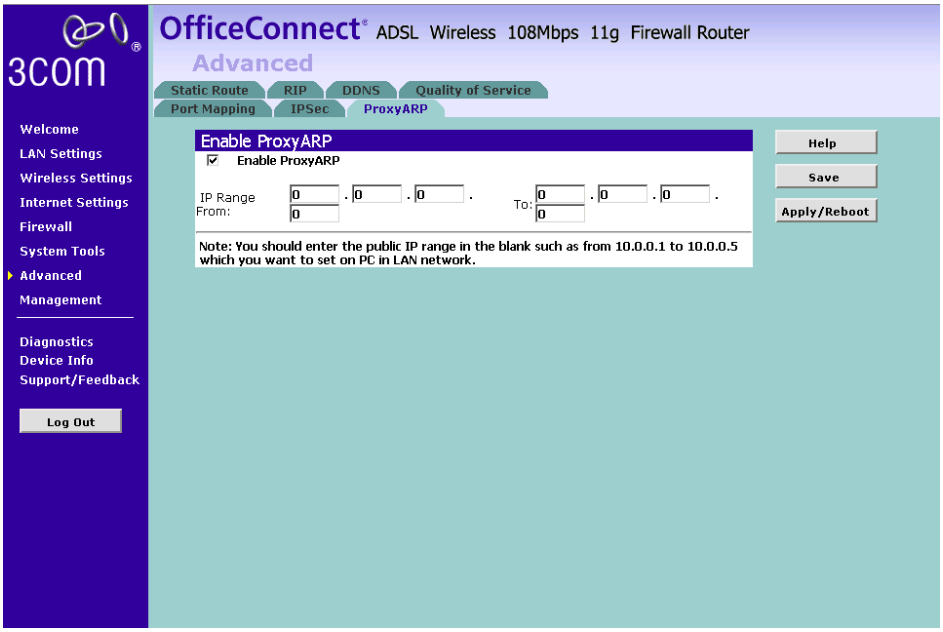
Proxy ARP is a variation of Address Resolution Protocol (ARP), in which an intermediate device (in this case, the Router) sends an ARP response on behalf of an end node to the requesting host. Proxy ARP can help

Downloaded from www.Manualslib.com manuals search engine

decrease bandwidth consumption on slow-speed WAN links and allows a site to use a single IP address for two physical networks.

To use proxy ARP, you must have a range of static IP addresses assigned by your ISP.

Figure 57 The Proxy ARP Screen



To configure Proxy ARP:

1. On the menu, click *Advanced*.
2. Click the *Proxy ARP* tab.
3. Select the *Enable Proxy ARP* check box.
4. Enter the static IP addresses that your ISP has given to you.
5. Click Save to save your changes.

IPSec Internet Protocol Security (IPSec) is a standards-based VPN that offers flexible solutions for secure data communications across a public network like the Internet. The Virtual Private Network (VPN) is a popular technology used for communications between two networking sites without the expense of leased site-to-site lines.

Downloaded from www.Manualslib.com manuals search engine

Figure 58 The IPSec Screen

Below is a description of the basic configuration parameters:

IPSec Connection Name: Please enter a name to define your connection.

Remote IPSec Gateway Address: This is the static WAN IP address or URL of the remote IPSec router.

Tunnel Access from Local IP Addresses: Select if you want to create a tunnel access for a single computer or a subnet.

IP Address/Subnetmask for VPN: If you choose a single computer from the above, please enter the local computer's IP Address; otherwise, enter a subnet and the corresponding subnetmask in the field provided.

Tunnel Access from Remote IP Addresses: Select if you want to create a tunnel access with the remote site for a single computer or a subnet.

IP Address/Subnetmask for VPN: If you choose a single computer from the above, please enter the remote computer's IP Address; otherwise, enter a subnet and the corresponding subnetmask in the field provided.

Downloaded from www.Manualslib.com manuals search engine

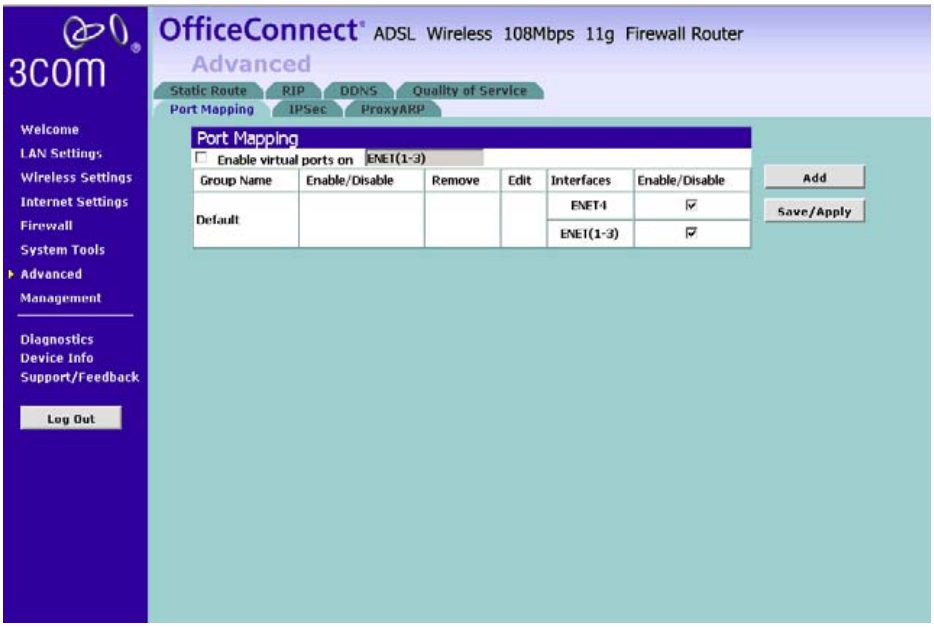
Key Exchange Method: Select **IKE** or **Manual** from the drop-down list box. **Manual** is useful for troubleshooting when you have problems using IKE key management.

Pre-Shared Key: Type your pre-shared key in this field. Enter 8 to 31 case-sensitive ASCII characters. Both routers which would build a VPN tunnel must use the same pre-shared key.

Port Mapping

Port Mapping supports multiple ports to PVC and bridging groups. Each group will perform as an independent network. To support this feature, you must create mapping groups with appropriate LAN and WAN interfaces using the *Add* button. The *Remove* button will remove the grouping and add the ungrouped interfaces to the Default group.

Figure 59 The Port Mapping Screen



To create a new mapping group:

Enter the Group name and select interfaces from the available interface list and add it to the grouped interface list using the arrow buttons to create the required mapping of the ports. The group name must be unique. A maximum 16 entries can be configured.

Click *Apply* to make the changes effective immediately.

Downloaded from www.Manualslib.com manuals search engine

Do not alter any settings unless you are an experienced network administrator.

Management

The management Screen lets you administer your routers with features such as System Log, SNMP, UPnP, Trust Station, Remote Management, and Utility.

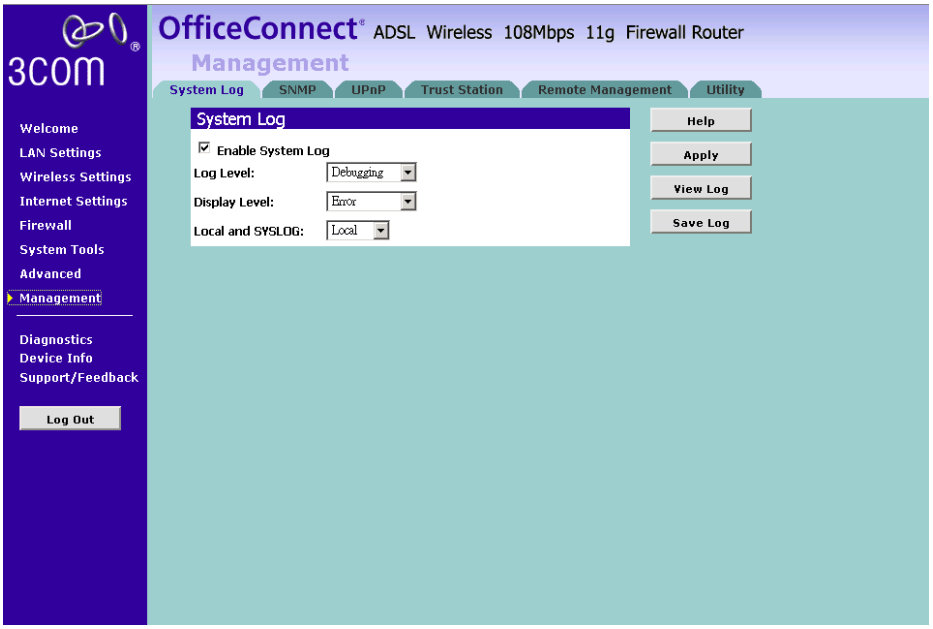
Syslog

If you have a syslog server on the network, you can configure the Router Point to send the device logs to the server.

You may need to configure the syslog server to accept logs from the Router.

Downloaded from www.Manualslib.com manuals search engine

Figure 60 The System Log Screen



To view the current logs:

1 Click the *View Log* button.

To enable the system log:

1 Check *Enable System Log* box.

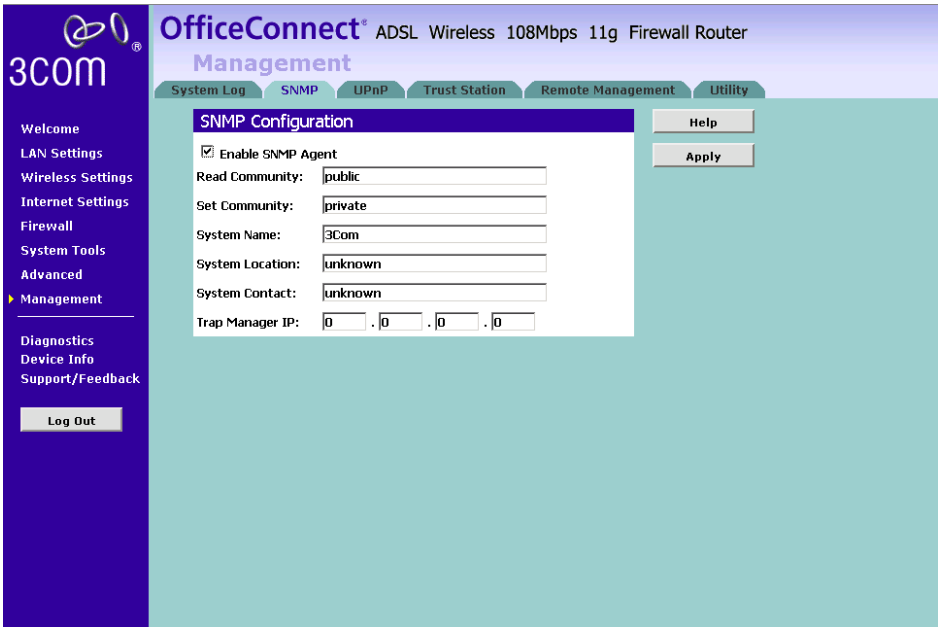
2 Select the drop-down menu for a list of available types of logging activities.

3 Select the Display Level for a list of available types of logging display. Select Select on the Mode for logging mode: Local, Remote, or Both. For the remote logging, enter the remote server's IP address and Port number for receiving the logs.

SNMP Simple Network Management Protocol (SNMP) is the protocol used for exchanging management information between network devices.

Downloaded from www.Manualslib.com manuals search engine

Figure 61 The SNMP Screen



Click *Enable/Disable* to enable/disable the agent.

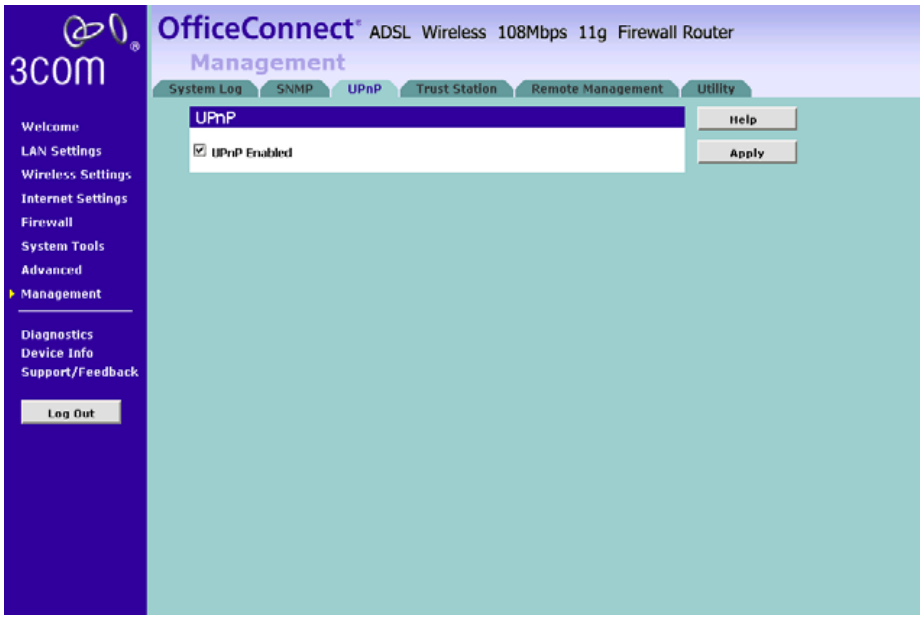
To Configure the SNMP:

1. Type the Read Community, which is the password for the incoming Get and GetNext requests from the management station.
2. Type the Set Community, which is the password for incoming Set requests from the management station.
3. Type the System Name for the program.
4. Type the System Location for the program.
5. Type the System Contact for the Contact person's name.
6. Type the IP Address of the station/device for sending your SNMP traps to.
7. Click *Apply*.

UPnP Universal Plug and Play (UPnP) is a distributed, open networking standard that uses TCP/IP for simple peer-to-peer network connectivity between devices. UPnP compatible devices can dynamically join a network and learn about other devices on the network. UPnP hardware will be shown in the Network Connections folder in Windows XP.

Downloaded from www.Manualslib.com manuals search engine

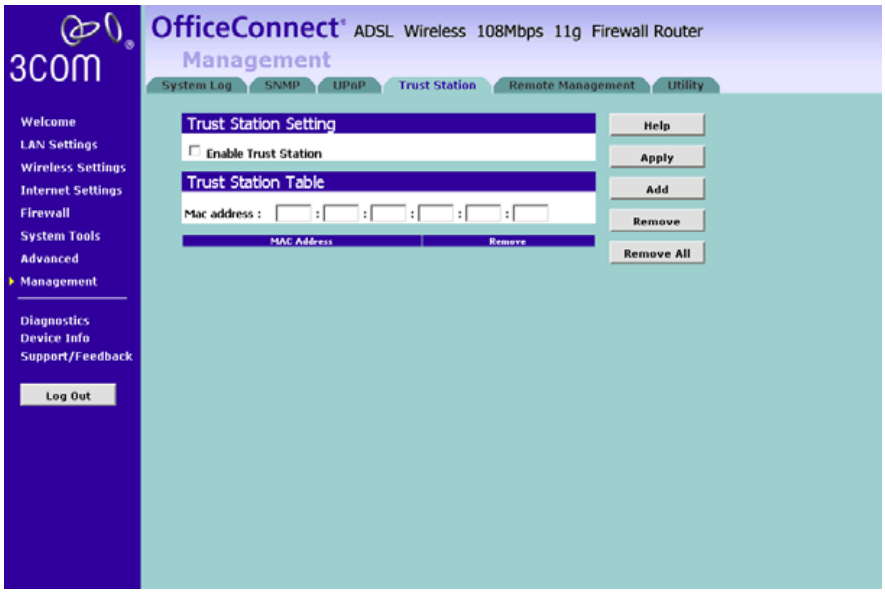
Figure 62 The UPnP Screen



Check **UPnP Enabled** to activate UPnP.

Trusted Station

Figure 63 The Trusted Station Screen



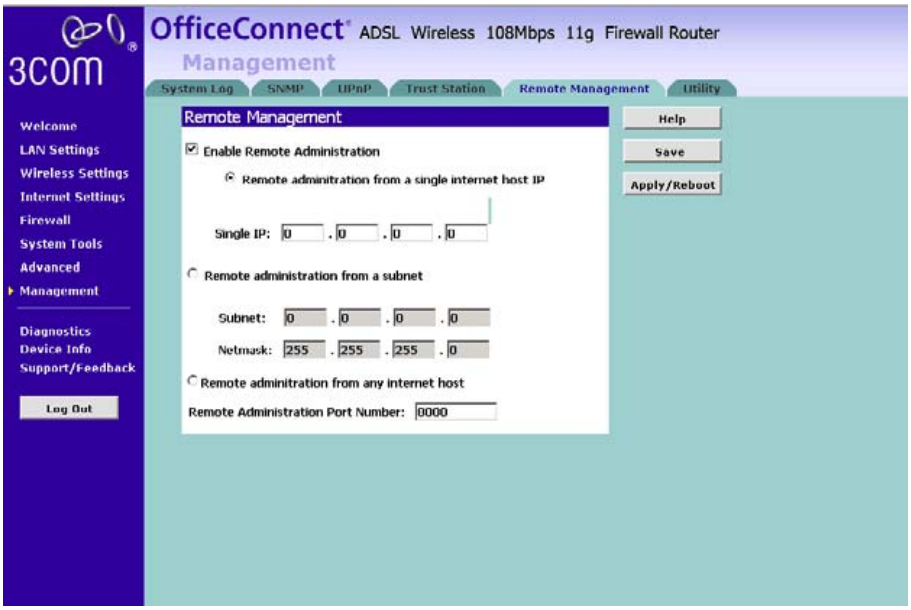
The Trusted Station Screen lets you add/remove the MAC address of the stations which can access the web administration.

Downloaded from www.Manualslib.com manuals search engine

Remote Management

It is possible to administer the Router remotely. Select one of the following options for remote administration:

Figure 64 The Remote Management Screen



- *Disable Remote Administration* — This option is set as default.
- *Enable administration from a **single** Internet Host* — Only the specified Host IP Address can manage the Router. Any other users will be rejected.
- *Enable administration from a **whole subnet*** — This option allows a number of users within the specified Host Network Address and Subnet Mask to administer the Router.
- *Enable administration from **any** Internet Host* — This option allows any host to access the administration pages.

To remotely administer your Router, enter **http://xxx.xxx.xxx.xxx:8000** in the location bar of the browser running on the remote computer, where *xxx.xxx.xxx.xxx* is the Internet IP address of the Router. You may then login using the administration password.

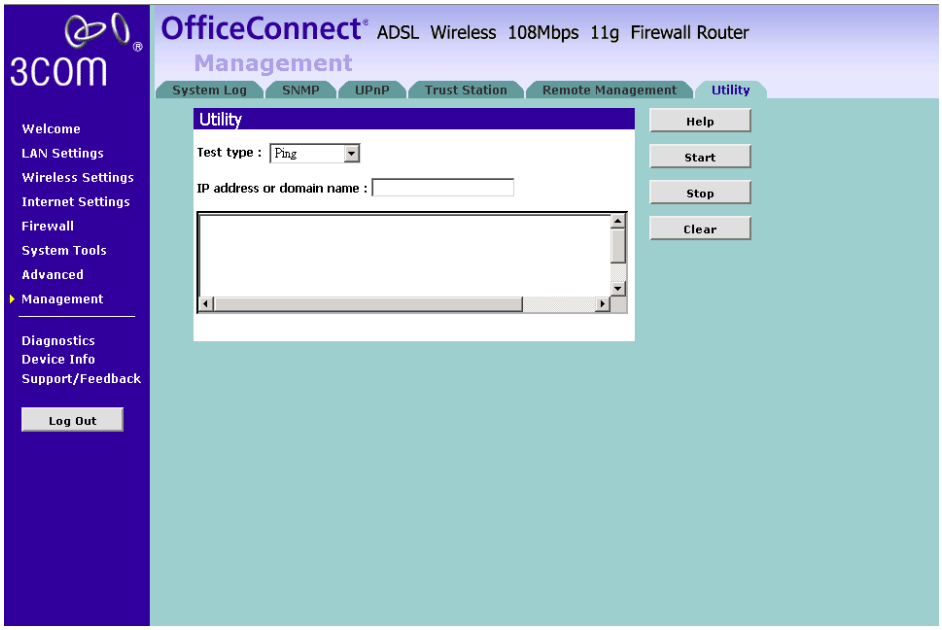
Your Internet IP address can be found at the bottom of the screen.

Utility

The utility screen will let you execute some commands to test your internet connections.

Downloaded from www.Manualslib.com manuals search engine

Figure 65 The Utility Screen



To use the utility:

1 Select commands that you would like to run from the menu.

2 Enter the IP Address or Domain Name in the field provided.

3 Click **Start** to start executing the command.

4 The results will be shown on the screen below.

Diagnostics

The Diagnostics Screen lets you diagnose your DSL connection to the internet and your wired and wireless LAN networkings. Click on the *Test* button to start testing.

Downloaded from www.Manualslib.com manuals search engine

Figure 66 The Diagnostics Screen

3COM
OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
Diagnostics
Diagnostics
Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
System Tools
Advanced
Management
Diagnostics
Device Info
Support/Feedback
Log Out
Diagnostics
Rerun Diagnostic
Your modem is capable of testing your DSL connection. The individual tests are listed below. If a test displays a fail status, click "Rerun Diagnostic Tests" at the bottom of this page to make sure the fail status is consistent. If the test continues to fail, click "Help" and follow the troubleshooting procedures.
Test the connection to your local network
Test your ENET4 Connection: PASS Help
Test your Wireless Connection: PASS Help
Test the connection to your DSL service provider
Test ADSL Synchronization: FAIL Help

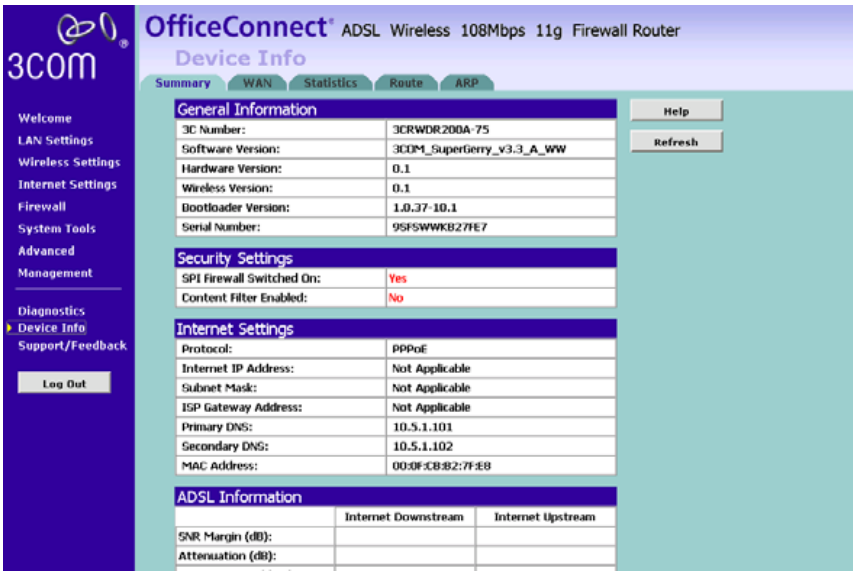
Device Info

The Device Info Settings menu provides the following options:

Downloaded from www.Manualslib.com manuals search engine

Summary

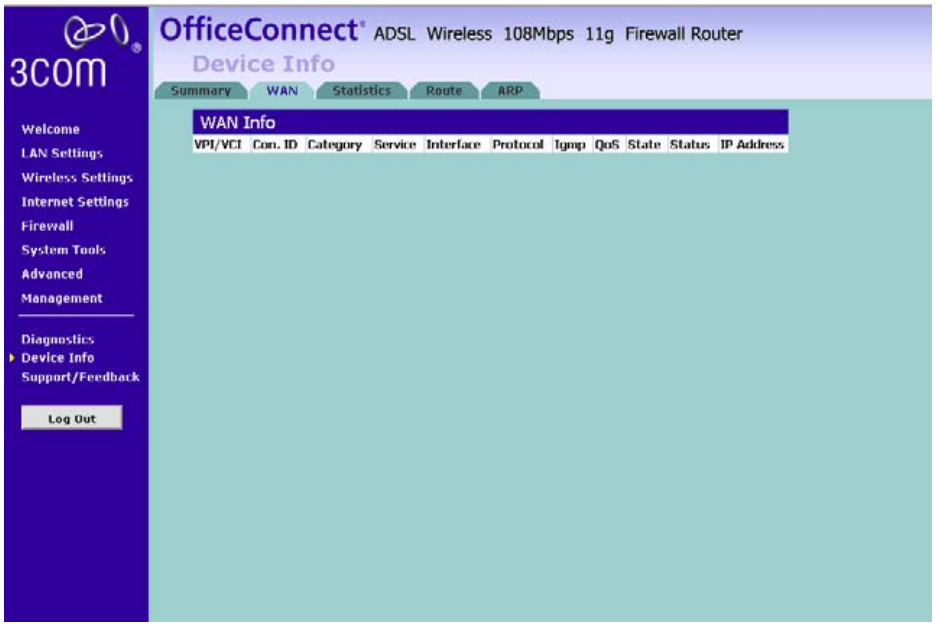
Figure 67 The Summary Screen



The Summary screen is used to display the information of your LAN status.

WAN

Figure 68 The WAN Screen

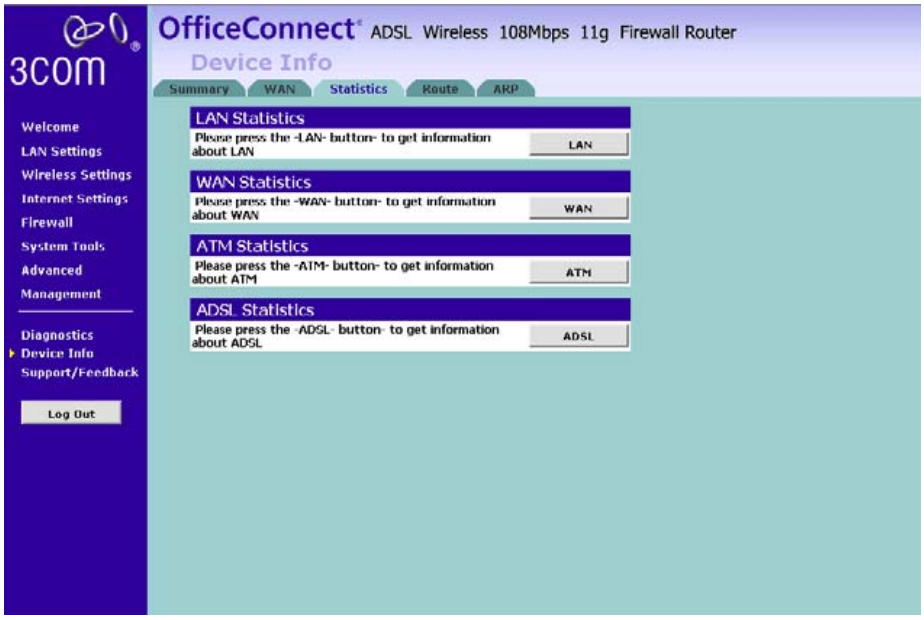


The *WAN Status Screen* is used to display the information of your DSL Connection Status.

Downloaded from www.Manualslib.com manuals search engine

Statistics

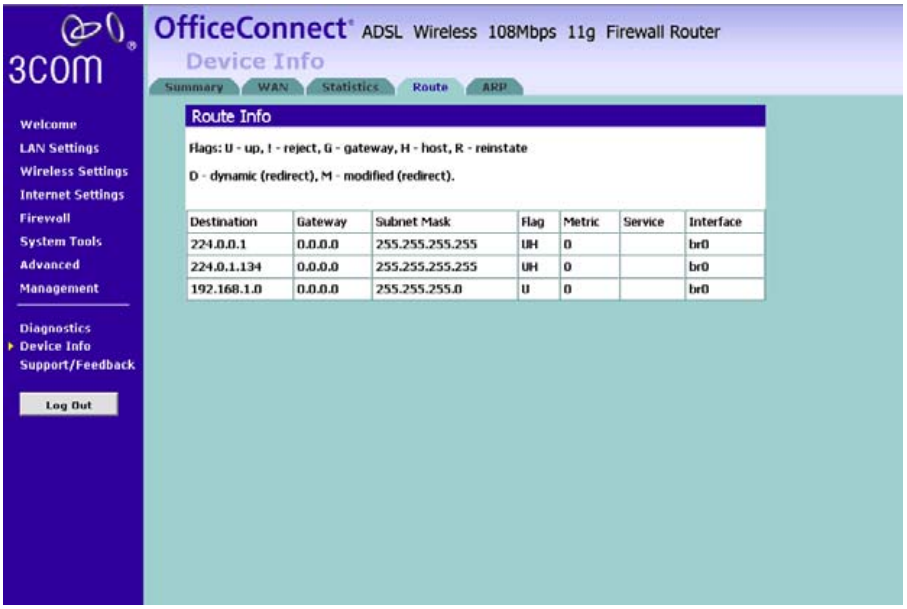
Figure 69 The Statistics Screen



The *Statistics Screen* is used to display the information of your LAN/WAN/ATM/ADSL Connection Statistics. Click on the button for each connection device for more detailed information.

Downloaded from www.Manualslib.com manuals search engine

Route **Figure 70** The Route Screen



The *Route Screen* is used to display the routing status/information.

ARP **Figure 71** The ARP Screen

The ARP screen is used to display the ARP status.

Downloaded from www.Manualslib.com manuals search engine

Support/Feedback

Selecting **Support/Feedback** from the main menu displays the *Status, Logs,* Routing Table, and Syslog screens in your Web browser window.

Support/Feedback

Selecting *Support/Feedback* from the main menu displays the *Support* and *Feedback* screens.

Support

Figure 72 Support Screen

Selecting the *Support* option on the main menu displays the support links screen, which contains a list of Internet links that provide information and support concerning the Route.

Downloaded from www.Manualslib.com manuals search engine

Feedback

Figure 73 Feedback Screen

3com
OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router
Support
Support
Feedback
Welcome
LAN Settings
Wireless Settings
Internet Settings
Firewall
System Tools
Advanced
Management
Diagnostics
Device Info
Support/Feedback
Log Out
Feedback
Help
3Com is always looking for product improvements. If you'd like to help us by providing feedback you can do so by clicking on the button below which will connect you to 3Com's website.
None of the fields are mandatory - just provide the information you wish.
Please do not use this link for Technical Support. If you need assistance click on the Support option on the left hand menu.
Provide Feedback
Veuillez ne pas utiliser ce lien pour contacter le Support Technique. Si vous souhaitez de l'aide, cliquez sur l'option "Support" dans le menu ?auche.
Bitte benutzen Sie dieses Link nicht f?hnische Unterst?. Sollten Sie Hilfe ben?en, klicken Sie bitte auf die 'Support' Option im linken Men?
Vi preghiamo di non utilizzare questo link per Supporto Tecnico. Se avete bisogno di assistenza per favore fare click sull'opzione di supporto sul menu a sinistra.
Por favor, no use este enlace para recibir Soporte Tecnico. Si necesita asistencia pulse en la opcion de Soporte en el menu de la izquierda.

Selecting the *Feedback* option displays the Feedback screen and allows you to provide feedback to 3Com on the operation of your Router. This screen should not be used to obtain technical support.

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

6 TROUBLESHOOTING

Basic Connection Checks

- Check that the Router is connected to your computers, and that all the equipment is powered on. Check that the LAN Status and Sync DSL Status LEDs on the Router are illuminated, and that any corresponding LEDs on NIC are also illuminated.
- Ensure that the computers have completed their start-up procedure and are ready for use. Some network interfaces may not be correctly initialized until the start-up procedure has completed.
- If the link status LED does not illuminate for a port that is connected, check that you do not have a faulty cable. Try a different cable.

Browsing to the Router Configuration Screens

If you have connected your Router and computers together but cannot browse to the Router configuration screens, check the following:

- Confirm that the physical connection between your computer and the Router is OK, and that the LAN Status LEDs on the Router and NIC are illuminated and indicating the same speed (10Mbps or 100Mbps). Some NICs do not have status LEDs, in which case a diagnostic program may be available that can give you this information.
- Ensure that you have configured your computer as described in Chapter 3, *Setting Up Your Computers*. Restart your computer while it is connected to the Router to ensure that your computer receives an IP address.
- When entering the address of the Router into your web browser, ensure that you use the full URL including the http:// prefix (e.g. **`http://192.168.1.1`**).
- Ensure that you do not have a Web proxy enabled on your computer. Go to the *Control Panel* and click on *Internet Options*. Select the *Connections* tab and click on the *LAN Settings* button at the bottom. Make sure that the *Proxy Server* option is unchecked.

Downloaded from www.Manualslib.com manuals search engine

- If you cannot browse to the Router, use the *winipcfg* utility in Windows XP to verify that your computer has received the correct address information from the Router. From the *Start* menu, choose *Run* and then enter **`cmd`**. Check that the computer has an IP address of the form 192.168.1.xxx (where xxx is in the range 2-254), the subnet mask is 255.255.255.0, and the default Router is 192.168.1.1 (the address of the Router). If these are not correct, use the *Release* and *Renew* functions to obtain a new IP address from the Router. Under Windows 2000,XP,and Vista, use the *ipconfig/all* command-line utility to perform the same functions.
- If you still cannot browse to the Router, then use the Discovery program on the accompanying CD-ROM as described in Appendix A.

Connecting to the Internet

If you can browse to the Router configuration screens but cannot access sites on the Internet, check the following:

- Confirm that the physical connection between the Router and the broadband connection is OK, and that the Sync DSL LED and Data DSL LED on the Router are illuminated. If the Sync DSL LED is off, check the physical connection path to the ADSL line. If the Sync DSL LED is on, but the Data DSL LED is off, confirm the login details are correct and the ADSL service is available (contact your ISP for the status)
- Confirm that ADSL filter is connected.
- Ensure that you have entered the correct information into the Router configuration screens as required by your Internet Service Provider. Use the "Internet Settings" screen to verify this.
- Check that the PPPoE, PPPoA or PPTP user name, password and service name are correct, if these are required. Only enter a PPPoE service name if your ISP requires one.
- Ensure that your computers are not configured to use a Web proxy. On Windows computers, this can be found under *Control Panel* > *Internet Options* > *Connections*.

Forgotten Password and Reset to Factory Defaults

If you can browse to the Router configuration screen but cannot log on because you do not know or have forgotten the password, follow the steps below to reset the Router to it's factory default configuration.

CAUTION: *All your configuration changes will be lost, and you will need to run the configuration wizard again before you can re-establish your*

Downloaded from www.Manualslib.com manuals search engine

Router connection to the Internet. Also, other computer users will lose their network connections whilst this process is taking place, so choose a time when this would be convenient.

Here is how you may use the reset button:

1. Use the tip of a pen.
2. Press and hold the reset button at the rear panel of the device for about 5 seconds and release. The LEDs will start blinking.
3. Wait until the Alert Led stops flashing the red light when the device has completed the Power On Self Test.
4. Now you may connect your computer to one of the LAN ports of the device and browse to:

   http://192.168.1.1

   and run the configuration wizard. You may need to restart your computer before you attempt this.

5. When the configuration wizard has completed, you may reconnect your network as it was before.

Wireless Networking

- Ensure that you have an 802.11b or 802.11g wireless adapter for each wireless computer, and that it is correctly installed and configured. Verify that each Wireless computer has either Windows 95 or higher or MAC OS 8.5 or higher.
- Verify that your wireless computers are configured to work in Infrastructure mode and not Ad Hoc mode. The Router contains an Access Point that is designed to operate in Infrastructure mode. Ad Hoc mode is not supported by the Router.
- If you have a wired and a wireless NIC in the same computer, ensure that the wired NIC is disabled.
- Check the status of the Router Wireless LED, it should be lit if wireless is enabled and will flash when there is wireless activity. If not lit go to "Wireless Settings" and enable wireless networking.
- Ensure that the TCP/IP settings for all devices are correct.
- Ensure that the Wireless Clients are using the same SSID or Service Area Name as the Router. The SSID is case-sensitive

Downloaded from www.Manualslib.com manuals search engine

- Ensure that the encryption method and level that you use on your clients are the same as those configured on the Router.
- Ensure that you have the Wireless computer enabled in the list of allowed MAC addresses if you are using Wireless Connection control on the Router.
- If you are having difficulty connecting or are operating at a low speed try changing the antenna positions on the rear of the Router. For more effective coverage you can try reorientating your antennae. Place one antenna vertically and one horizontally to improve coverage. Additionally consider moving the wireless computer closer to the Router to confirm that the building structure or fittings are not adversely affecting the connectivity. If this resolves the problem consider relocating the Wireless computer or the Router, or trying a different channel on the Router.
- Sources of interference: The 2.4Ghz ISM band is used for 802.11b and 802.11g. This is generally a licence free band for low power applications, and you may have other devices at your location that operate in this frequency band. You should take care to ensure that there are no devices like microwave ovens for example close to the Router or wireless computers as this could affect receiver sensitivity and reduce the performance of your network. If you are unsure try relocating both the wireless computers and the Router to establish whether this problem exists.
- Most wireless computer Adapters will scan the channels for the wireless Router. If a wireless computer has not located the Router then try initiating a search manually if the client software supports this feature or manually set the channel on your wireless computer to correspond to the Router channel number. Please refer to your Wireless computer adapter documentation and vendor to do this.
- Speed of connection: The 802.11b and 802.11g standards will automatically choose the best speed depending on the quality of your connection. As the signal quality weakens then the speed falls back to a lower speed. The speeds supported by 802.11g are 54 Mbps, 48 Mbps, 36 Mbps, 24 Mbps, 18 Mbps, 12 Mbps, and 6 Mbps. The speeds supported by 802.11b are 11 Mbps, 5.5 Mbps, 2 Mbps and 1 Mbps. In general the closer you are to the Router the better the speed. If you are not achieving the speed you had anticipated then try moving the antenna on the Router or moving the Wireless computer closer to the Router. In an ideal network the Router should be located in the centre of the network with Wireless computers distributed

Downloaded from www.Manualslib.com manuals search engine

around it. Applications are generally available with the computer wireless card to carry out a site survey. Use this application to find the optimal siting for your wireless computer. Consult your Computer Card documentation and vendor for more details.

Power LED or Power Adapter OK LED Not Lit

- Check that your Router is receiving power by looking at the status of the Power LED on the front panel and the Power Adapter OK LED on the rear panel:
  - If both LEDs are lit green then the unit is receiving power.
  - If both LEDs are unlit then no power is being supplied to the unit. Check that the power adapter is plugged into a working mains outlet and that the mains outlet is supplying power. If the mains socket is supplying power then the power adapter or power adapter connection may be faulty. See "Replacement Power Adapters" below.
  - If the Power Adapter OK LED is lit but the Power LED is unlit then there may be a fault with your unit. Contact 3Com Technical Support.
- Check that you are using the correct power adapter for your Router. You should only use the power adapter supplied with your Router.

Replacement Power Adapters

If both the Power Adapter OK LED and Power LED are off, check your power adapter connection. If the mains outlet is working and is capable of supplying power to other devices, contact 3Com Technical Support and ask for a replacement power adapter. Please quote the power adapter part number shown on the OfficeConnect power adapter you are using.

Alternatively, quote the part number for your region:

Power Adapter Part Numbers

Part Number	Region
3C15VUK	UK
3C15VME	European
3C15VUS	US
3C15VAA	Asia

Downloaded from www.Manualslib.com manuals search engine

Alert LED

The Alert LED will flash when the Router unit is first powered up while the system software checks the hardware for proper operation. Once the Router has started normal operation, the Alert LED will go out.

- If the Alert LED does not go out following start up, but illuminates continuously, this indicates that the software has detected a possible fault with the hardware. Remove power from the Router, wait 10 seconds and then re-apply power. If the Alert LED comes on continuously again, then a fault has been detected. Locate the copy of the Router software on the accompanying CD-ROM or 3Com web site (http://www.3com.com) and upload it to the Router to see if this clears the fault (refer to "Recovering from Corrupted Software" below). If this does not fix the problem, contact your supplier for further advice.
- During normal operation, you may notice the Alert LED lighting briefly from time to time. This indicates that the Router has detected a hacker attack from the Internet and has prevented it from harming your network. You need take no specific action on this, unless you decide that these attacks are happening frequently in which case you may wish to discuss this with your ISP. The Router logs such attacks, and this information is available through the Status and Logs screens.

Recovering from Corrupted Software

If the Alert LED remains permanently on following power-up, it is possible that the system software has become corrupted. In this condition, the Router will enter a "recovery" state; DHCP is disabled, and the LAN IP address is set to 192.168.1.1. Follow the instructions below to upload a new copy of the system software to a Router unit in this state.

Ensure that one of your computers has a copy of the new software image file stored on its hard disk or available on CD-ROM.

The latest software is available on 3Com's Web site at:

http://www.3com.com

1. Remove power from the Router and disconnect all your computers, except for the one computer with the software image.
2. You will need to reconfigure this computer with the following static IP address information:

Downloaded from www.Manualslib.com manuals search engine

- IP address: 192.168.1.2
- Subnet mask: 255.255.255.0
- Default Router address: 192.168.1.1

3 Restart the computer, and re-apply power to the Router.

4 Using the Web browser on the computer, enter the following URL in the location bar:

`http://192.168.1.1`.

This will connect you to the Microcode Recovery utility in the Router.

5 Follow the on-screen instructions. Enter the path and filename of the software image file.

6 When the upload has completed, the Router will restart, run the self-test and, if successful, resume normal operation. The Alert LED will go out.

7 Refer to the Installation Guide to reconnect your Router with your ADSL service and the computers in your network. Do not forget to reconfigure the computer you used for the software upload.

If the Router does not resume normal operation following the upload, it may be faulty. Contact your supplier for advice.

Frequently Asked Questions

How do I reset the Router to Factory Defaults?

See "Forgotten Password and Reset to Factory Defaults" on page 102.

How many computers on the LAN does the Router support?

A maximum of 253 computers on the LAN are supported. Please note that the performance will degrade with increase number of users.

How many wireless clients does the Router support?

A maximum of 128 wireless clients are supported.

There are only 4 LAN ports on the Router. How are additional computers connected?

Downloaded from www.Manualslib.com manuals search engine

You can expand the number of connections available on your LAN by using hubs, switches and wireless access points connected to the Router. 3Com wireless access points and OfficeConnect hubs and switches provide a simple, reliable means of expanding your network; contact your supplier for more information, or visit:

http://www.3com.com

Does the Router support virtual private networks (VPNs)?

The Router supports VPN passthrough, which allows VPN clients on the LAN to communicate with VPN hosts on the Internet. It is also possible to set up VPN hosts on your LAN that clients elsewhere on the Internet can connect to, but this is not a recommended configuration.

Where can I download software updates for the Router?

Updates to the Router software are posted on the 3Com support web site, accessible by visiting:

http://www.3com.com

What other online resources are there?

The 3Com Knowledgebase at:

http://knowledgebase.3com.com

is a database of technical information covering all 3Com products. It is updated daily with information from 3Com technical support services, and it is available 24 hours a day, 7 days a week.

3Com Warranty and Support Services

Before you contact 3Com for warranty support, whenever possible, please first register your product at

http://eSupport.3com.com/

Registration helps us to provide faster service when you contact us.

To ensure that we use your time wisely, please be prepared to provide us with information on what you have done already to try to solve the problem, as well as the following details:

Downloaded from www.Manualslib.com manuals search engine

Warranty support:

- Requestor contact details
- 3C part number
- Firmware or software version of the 3Com product and operating system used
- Description of the problem or failure
- Serial number of the product
- Ship-to address, with on-site contact (required for Return Materials Authorizations)

Contract services:

- The same information as requested above for Warranty support
- Your 3Com GSO Master Contract Number
  OR your 3Com GSO Site-Specific Contract Number

Any service requested will be validated according to the specific entitlements of the product warranty or 3Com service contract.

For the most up-to-date World Wide 3Com Service contact information (telephone numbers, URLs, or email address) for your region, please visit:

http://csoweb4.3com.com/contactus/

If your product came with a Safety and Support brochure, you can also refer to the Support section for 3Com regional contact numbers, URLs, and email address.

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

A USING DISCOVERY

Running the Discovery Application

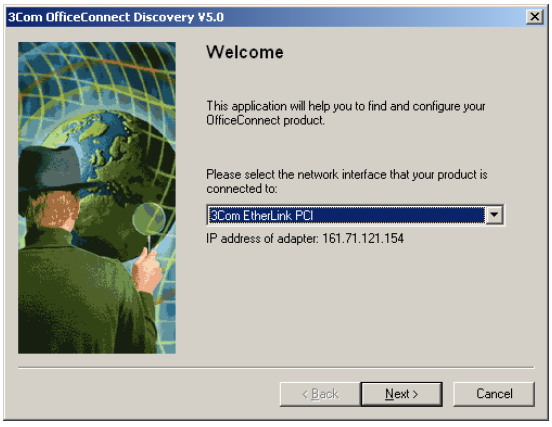
3Com provides a user-friendly Discovery application for detecting the Router on the network.

Windows Installation (95/98/2000/Me/NT/XP)

1 Insert the Router CD-ROM in the CD-ROM drive on your computer. A menu will appear; select *Router Discovery*.

Discovery will find the Router even if it is unconfigured or misconfigured.

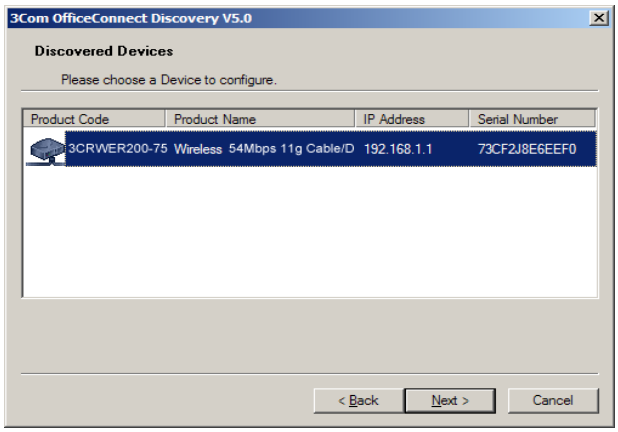
Figure 74 Discovery Welcome Screen


3Com OfficeConnect Discovery V5.0
Welcome
This application will help you to find and configure your OfficeConnect product.
Please select the network interface that your product is connected to:
3Com EtherLink PCI
IP address of adapter: 161.71.121.154
< Back
Next >
Cancel

2 When the *Welcome* screen is displayed click on *Next* and wait until the application discovers the Routers connected to your LAN.

Downloaded from www.Manualslib.com manuals search engine

Figure 75 Discovered Router Screen



3 Figure 76 shows an example Discovered Devices screen. Highlight the *Router* by clicking on it, and press *Next*.

Figure 76 Discovery Finish Screen

3Com OfficeConnect Discovery V5.0
Completing the OfficeConnect Discovery Application
Communication with your OfficeConnect Device has been successful.
You are now ready to configure the Device using its set-up Wizard.
If you lose contact with the Device you should re-launch the Discovery application.
To exit the application and launch the set-up Wizard for your Device, click Finish.
< Back
Finish
Cancel

4 Click on *Finish* to launch a web browser and display the login page for the Router.

Downloaded from www.Manualslib.com manuals search engine

B IP ADDRESSING

The Internet Protocol Suite

The Internet protocol suite consists of a well-defined set of communications protocols and several standard application protocols. Transmission Control Protocol/Internet Protocol (TCP/IP) is probably the most widely known and is a combination of two of the protocols (IP and TCP) working together. TCP/IP is an internationally adopted and supported networking standard that provides connectivity between equipment from many vendors over a wide variety of networking technologies.

Managing the Router over the Network

To manage a device over the network, the Router must be correctly configured with the following IP information:

- An IP address
- A Subnet Mask

IP Addresses and Subnet Masks

Each device on your network must have a unique IP address to operate correctly. An IP address identifies the address of the device to which data is being sent and the address of the destination network. IP addresses have the format n.n.n.x where n is a decimal number between 0 and 255 and x is a number between 1 and 254 inclusive.

However, an IP Address alone is not enough to make your device operate. In addition to the IP address, you need to set a subnet mask. All networks are divided into smaller sub-networks and a subnet mask is a number that enables a device to identify the sub-network to which it is connected.

Downloaded from www.Manualslib.com manuals search engine

For your network to work correctly, all devices on the network must have:

- The same sub-network address.
- The same subnet mask.

The only value that will be different is the specific host device number. This value must always be unique.

An example IP address is '192.168.1.8'. However, the size of the network determines the structure of this IP Address. In using the Router, you will probably only encounter two types of IP Address and subnet mask structures.

Type One

In a small network, the IP address of '192.168.1.8' is split into two parts:

- Part one ('192.168.1') identifies the network on which the device resides.
- Part two ('.8') identifies the device within the network.

This type of IP Address operates on a subnet mask of '255.255.255.0'.

See Table 3 for an example about how a network with three computers and a Router might be configured.

Table 3 IP Addressing and Subnet Masking

Table 1

Device	IP Address	Subnet Mask
PC 1	192.168.1.8	255.255.255.0
PC 2	192.168.1.33	255.255.255.0
PC 3	192.168.1.188	255.255.255.0
Router	192.168.1.72	255.255.255.0

Type Two

In larger networks, where there are more devices, the IP address of '192.168.1.8' is, again, split into two parts but is structured differently:

- Part one ('192.168') identifies the network on which the device resides.
- Part two ('.1.8') identifies the device within the network.

This type of IP Address operates on a subnet mask of '255.255.0.0'.

Downloaded from www.Manualslib.com manuals search engine

See Table 4 for an example about how a network (only four computers represented) and a Router might be configured.

Table 4 IP Addressing and Subnet Masking

Device	IP Address	Subnet Mask
PC 1	192.168.1.8	255.255.0.0
PC 2	192.168.201.30	255.255.0.0
PC 3	192.168.113.155	255.255.0.0
PC 4	192.168.002.230	255.255.0.0
Router	192.168.002.72	255.255.0.0

How does a Device Obtain an IP Address and Subnet Mask?

There are three different ways to obtain an IP address and the subnet mask. These are:

- Dynamic Host Configuration Protocol (DHCP) Addressing
- Static Addressing
- Automatic Addressing (Auto-IP Addressing)

DHCP Addressing

The Router contains a DHCP server, which allows computers on your network to obtain an IP address and subnet mask automatically. DHCP assigns a temporary IP address and subnet mask which gets reallocated once you disconnect from the network.

DHCP will work on any client Operating System such as Windows® 95, Windows 98 or Windows NT 4.0. Also, using DHCP means that the same IP address and subnet mask will never be duplicated for devices on the network. DHCP is particularly useful for networks with large numbers of users on them.

Static Addressing

You must enter an IP Address and the subnet mask manually on every device. Using a static IP and subnet mask means the address is permanently fixed.

Auto-IP Addressing

Network devices use automatic IP addressing if they are configured to acquire an address using DHCP but are unable to contact a DHCP server. Automatic IP addressing is a scheme where devices allocate themselves an IP address at random from the industry standard subnet of 169.254.x.x (with a subnet mask of 255.255.0.0). If two devices allocate

Downloaded from www.Manualslib.com manuals search engine

themselves the same address, the conflict is detected and one of the devices allocates itself a new address.

Automatic IP addressing support was introduced by Microsoft in the Windows 98 operating system and is also supported in Windows 2000.

Downloaded from www.Manualslib.com manuals search engine

C TECHNICAL SPECIFICATIONS

This section lists the technical specifications for the OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router.

ADSL Wireless 11g 108Mbps Firewall Router

Interfaces

ADSL modem connection — Modem RJ-11 port

LAN connection — four 10Mbps/100Mbps dual speed Ethernet ports (10BASE-T/100BASE-TX)

WLAN Interfaces

Standard IEEE 802.11g and Super G(108Mbps), Direct Sequence Spread Spectrum (DSSS)
Transmission rate: 108Mbps and 54Mbps, automatic fallback to 48, 36, 24, 18, 12, or 6 Mbps
Maximum channels: 14
Range up to 304.8m (1000ft)
Frequency: (US/Canada/Europe) 2.400-2.4835 GHz
Sensitivity: 6, 12, 18, 24, 36, 48 Mbps: -85 dBm;
54 Mbps -66 dBm typical
Modulation: CCK, BPSK, QPSK, OFDM
Encryption: 40/64 bit WEP, 128 bit WEP, WPA
Maximum clients: 128
O/P Power: 18dBm

Standard IEEE 802.11b, Direct Sequence Spread Spectrum (DSSS)
Transmission rate: 11bps, automatic fallback to 5.5, 2, or 1 Mbps
Maximum channels: 14
Range up to 304.8m (1000ft)
Frequency: (US/Canada/Europe) 2.400-2.4835 GHz
Sensitivity: 1, 2, 5.5 Mbps: -85 dBm; 11 Mbps -82 dBm typical
Modulation: CCK, BPSK, QPSK, OFDM

Downloaded from www.Manualslib.com manuals search engine

Encryption: 40/64 bit WEP, 128 bit WEP, WPA
Maximum clients: 128
O/P Power 18dBm

Operating Temperature

0 °C to 40 °C (32 °F to 105 °F)

Power

7VA, 23.9 BThU/hr

Humidity

0% to 90% (non-condensing) humidity

Dimensions

- Width = 220 mm (8.7 in.)
- Depth = 135 mm (5.3 in.)
- Height = 24 mm (1 in.)

Weight

Approximately 500 g (1.1 lbs)

Standards

Functional:	ISO 8802/3 IEEE 802.3 IEEE 802.11b, 802.11g, Wi-Fi
Safety:	UL60950 CSA 22.2 #60950 IEC 60950 EN 60950
EMC:	EN 55022 Class B EN 55024 CISPR 22 FCC Part 15 Class B* ICES-003 Class B CNS 13438 Class A ETSI EN 301 489–17
Radio	CFR 47 FCC Part 15.207, 15.209, 15.247 and 15.249. ETS 300 328 (2.4 GHz ISM band wide band transmission

Downloaded from www.Manualslib.com manuals search engine

systems.
RSS-210

Environmental: EN 60068 (IEC 68)

*See "Regulatory Information" on page 137 for conditions of operation.

System Requirements

Operating Systems

The Router will support the following Operating Systems:

- Windows 95/98
- Windows NT 4.0
- Windows ME
- Windows 2000
- Windows XP
- Mac OS 8.5 or higher
- Unix

Ethernet Performance

The Router complies to the IEEE 802.3i, u and x specifications.

Wireless Performance

The Router has been designed to conform to the Wi-Fi interoperability test standard.

Wi Fi™
The Standard for Wireless Fidelity.

Cable Specifications

The Router supports the following cable types and maximum lengths:

- Category 3 (Ethernet) or Category 5 (Fast Ethernet or Dual Speed Ethernet) Twisted Pair — shielded and unshielded cable types.
- Maximum cable length of 100m (327.86 ft).

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

D SAFETY INFORMATION

Important Safety Information

***WARNING**: Warnings contain directions that you must follow for your personal safety. Follow all directions carefully.*
You must read the following safety information carefully before you install or remove the unit:

***WARNING**: The Router generates and uses radio frequency (rf) energy. In some environments, the use of rf energy is not permitted. The user should seek local advice on whether or not rf energy is permitted within the area of intended use.*

***WARNING**: Exceptional care must be taken during installation and removal of the unit.*

***WARNING**: Only stack the Router with other OfficeConnect units.*

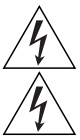
***WARNING**: To ensure compliance with international safety standards, only use the power adapter that is supplied with the unit.*

***WARNING**: The socket outlet must be near to the unit and easily accessible. You can only remove power from the unit by disconnecting the power cord from the outlet.*

***WARNING**: This unit operates under SELV (Safety Extra Low Voltage) conditions according to IEC 60950. The conditions are only maintained if the equipment to which it is connected also operates under SELV conditions.*

***WARNING**: There are no user-replaceable fuses or user-serviceable parts inside the Router. If you have a physical problem with the unit that cannot be solved with problem solving actions in this guide, contact your supplier.*

Downloaded from www.Manualslib.com manuals search engine



***WARNING**: Disconnect the power adapter before moving the unit.*

***WARNING: RJ-45 ports.** These are shielded RJ-45 data sockets. They cannot be used as telephone sockets. Only connect RJ-45 data connectors to these sockets.*

Wichtige Sicherheitshinweise

***VORSICHT:** Warnhinweise enthalten Anweisungen, die Sie zu Ihrer eigenen Sicherheit befolgen müssen. Alle Anweisungen sind sorgfältig zu befolgen.*
Sie müssen die folgenden Sicherheitsinformationen sorgfältig durchlesen, bevor Sie das Geräts installieren oder ausbauen:

***VORSICHT:** Der Router erzeugt und verwendet Funkfrequenz (RF). In manchen Umgebungen ist die Verwendung von Funkfrequenz nicht gestattet. Erkundigen Sie sich bei den zuständigen Stellen, ob die Verwendung von Funkfrequenz in dem Bereich, in dem der Bluetooth Access Point eingesetzt werden soll, erlaubt ist.*

***VORSICHT:** Bei der Installation und beim Ausbau des Geräts ist mit höchster Vorsicht vorzugehen.*

***VORTSICHT:** Stapeln Sie das Geräts nur mit anderen OfficeConnect Gerätes zusammen.*

***VORSICHT:** Aufgrund von internationalen Sicherheitsnormen darf das Gerät nur mit dem mitgelieferten Netzadapter verwendet werden.*

***VORSICHT:** Die Netzsteckdose muß in der Nähe des Geräts und leicht zugänglich sein. Die Stromversorgung des Geräts kann nur durch Herausziehen des Gerätenetzkabels aus der Netzsteckdose unterbrochen werden.*

***VORSICHT:** Der Betrieb dieses Geräts erfolgt unter den SELV-Bedingungen (Sicherheitskleinstspannung) gemäß IEC 60950. Diese Bedingungen sind nur gegeben, wenn auch die an das Gerät angeschlossenen Geräte unter SELV-Bedingungen betrieben werden.*

***VORSICHT:** Es sind keine von dem Benutzer zu ersetzende oder zu wartende Teile in dem Gerät vorhanden. Wenn Sie ein Problem mit dem Router haben, das nicht mittels der Fehleranalyse in dieser Anleitung*

Downloaded from www.Manualslib.com manuals search engine

behoben werden kann, setzen Sie sich mit Ihrem Lieferanten in Verbindung.

VORSICHT: *Vor dem Ausbau des Geräts das Netzadapterkabel herausziehen.*

VORSICHT: RJ-45-Anschlüsse. *Dies sind abgeschirmte RJ-45-Datenbuchsen. Sie können nicht als Telefonanschlußbuchsen verwendet werden. An diesen Buchsen dürfen nur RJ-45-Datenstecker angeschlossen werden.*

Consignes importantes de sécurité

AVERTISSEMENT: *Les avertissements présentent des consignes que vous devez respecter pour garantir votre sécurité personnelle. Vous devez respecter attentivement toutes les consignes.*
Nous vous demandons de lire attentivement les consignes suivantes de sécurité avant d'installer ou de retirer l'appareil:

AVERTISSEMENT: *La Router fournit et utilise de l'énergie radioélectrique (radio fréquence -rf). L'utilisation de l'énergie radioélectrique est interdite dans certains environnements. L'utilisateur devra se renseigner sur l'autorisation de cette énergie dans la zone prévue.*

AVERTISSEMENT: *Faites très attention lors de l'installation et de la dépose du groupe.*

AVERTISSEMENT: *Seulement entasser le moyer avec les autres moyeux OfficeConnects.*

AVERTISSEMENT: *Pour garantir le respect des normes internationales de sécurité, utilisez uniquement l'adaptateur électrique remis avec cet appareil.*

AVERTISSEMENT: *La prise secteur doit se trouver à proximité de l'appareil et son accès doit être facile. Vous ne pouvez mettre l'appareil hors circuit qu'en débranchant son cordon électrique au niveau de cette prise.*

AVERTISSEMENT: *L'appareil fonctionne à une tension extrêmement basse de sécurité qui est conforme à la norme CEI 60950. Ces conditions*

Downloaded from www.Manualslib.com manuals search engine

ne sont maintenues que si l'équipement auquel il est raccordé fonctionne dans les mêmes conditions.

AVERTISSEMENT: *Il n'y a pas de parties remplaceables par les utilisateurs ou entretenues par les utilisateurs à l'intérieur du moyeu. Si vous avez un problème physique avec le moyeu qui ne peut pas être résolu avec les actions de la résolution des problèmes dans ce guide, contacter votre fournisseur.*

AVERTISSEMENT: *Débranchez l'adaptateur électrique avant de retirer cet appareil.*

AVERTISSEMENT: Ports RJ-45. *Il s'agit de prises femelles blindées de données RJ-45. Vous ne pouvez pas les utiliser comme prise de téléphone. Branchez uniquement des connecteurs de données RJ-45 sur ces prises femelles.*

Downloaded from www.Manualslib.com manuals search engine

E END USER SOFTWARE LICENSE AGREEMENT

IMPORTANT: READ BEFORE INSTALLING THE SOFTWARE

3Com END USER SOFTWARE LICENSE AGREEMENT

YOU SHOULD CAREFULLY READ THE FOLLOWING TERMS AND CONDITIONS BEFORE DOWNLOADING, INSTALLING AND USING THIS PRODUCT, THE USE OF WHICH IS LICENSED BY 3COM CORPORATION (ì3COMî) TO ITS CUSTOMERS FOR THEIR USE ONLY AS SET FORTH BELOW. DOWNLOADING, INSTALLING OR OTHERWISE USING ANY PART OF THE SOFTWARE OR DOCUMENTATION INDICATES THAT YOU ACCEPT THESE TERMS AND CONDITIONS. IF YOU DO NOT AGREE TO THE TERMS AND CONDITIONS OF THIS AGREEMENT, DO NOT DOWNLOAD, INSTALL OR OTHERWISE USE THE SOFTWARE OR DOCUMENTATION, DO NOT CLICK ON THE "I AGREE" OR SIMILAR BUTTON. AND IF YOU HAVE RECEIVED THE SOFTWARE AND DOCUMENTATION ON PHYSICAL MEDIA, RETURN THE ENTIRE PRODUCT WITH THE SOFTWARE AND DOCUMENTATION UNUSED TO THE SUPPLIER WHERE YOU OBTAINED IT.

LICENSE: 3Com grants you a nonexclusive, nontransferable (except as specified herein) license to use the accompanying software program(s) in executable form (the ìSoftwareî) and accompanying documentation (the ìDocumentationî), subject to the terms and restrictions set forth in this Agreement. You are not permitted to lease, rent, distribute or sublicense (except as specified herein) the Software or Documentation or to use the Software or Documentation in a time-sharing arrangement or in any other unauthorized manner. Further, no license is granted to you in the human readable code of the Software (source code). Except as provided below, this Agreement does not grant you any rights to patents, copyrights, trade secrets, trademarks, or any other rights with respect to the Software or Documentation.

Subject to the restrictions set forth herein, the Software is licensed to be used on any workstation or any network server owned by or leased to you, for your internal use, provided that the Software is used only in connection with this 3Com product. You may reproduce and provide one (1) copy of the Software and Documentation for each such workstation or network server on which the Software is used as permitted hereunder. Otherwise, the Software and Documentation may be copied only as essential for backup or archive purposes in support of your use of the Software as permitted hereunder. Each copy of the Software and Documentation must contain 3Com's and its licensors' proprietary rights and copyright notices in the same form as on the original. You agree not to remove or deface any portion of any legend provided on any licensed program or documentation delivered to you under this Agreement.

ASSIGNMENT; NO REVERSE ENGINEERING: You may transfer the Software, Documentation and the licenses granted herein to another party in the same country in which you obtained the Software and Documentation if the other party agrees in writing to accept and be bound by the terms and conditions of this Agreement. If you transfer the Software and Documentation, you must at the same time either transfer all copies of the Software and Documentation to the party or you must destroy any copies not transferred. Except as set forth above, you may not assign or transfer your rights under this Agreement.

Modification, reverse engineering, reverse compiling, or disassembly of the Software is expressly prohibited. However, if you are a European Union (ìEUî) resident, information necessary to achieve interoperability of the Software with other programs within the meaning of the EU Directive on the Legal Protection of Computer Programs is available to you from 3Com upon written request.

EXPORT: This product, Software and/or technical data (collectively "Product") may contain encryption. This Product is subject to U.S. and EU export control laws and regulations and may be subject to export or import regulations in other countries, including controls on encryption products. You agree that you will not export, reexport or transfer the Product (or any copies thereof) or any products utilizing the Product in violation of any applicable laws or regulations of the United States or the country where you legally obtained it. You are responsible for obtaining any licenses to export, reexport, transfer or import the Product.

In addition to the above, the Product may not be used by, or exported or reexported to (i) any U.S.- or EU- sanctioned or embargoed country, or to nationals or residents of such countries; or (ii) to any person, entity, organization or other party identified on the U.S. Department of Commerce's Table of Denial Orders or the U.S. Department of Treasury's lists of "Specially Designated Nationals and Blocked Persons," as published and revised from time to time; (iii) to any party engaged in nuclear, chemical/biological weapons or missile proliferation activities, unless authorized by U.S. and local (as required) law or regulations.

TRADE SECRETS; TITLE**:** You acknowledge and agree that the structure, sequence and organization of the Software are the valuable trade secrets of 3Com and its suppliers. You agree to hold such trade secrets in confidence. You further acknowledge and agree that ownership of, and title to, the Software and Documentation and all subsequent copies thereof regardless of the form or media are held by 3Com and its suppliers.

UNITED STATES GOVERNMENT LEGENDS**:** The Software, Documentation and any other technical data provided hereunder is commercial in nature and developed solely at private expense. The Software is delivered as ìCommercial Computer Softwareî as defined in DFARS 252.227-7014 (June 1995) or as a

Downloaded from www.Manualslib.com manuals search engine

commercial item as defined in FAR 2.101(a) and as such is provided with only such rights as are provided in this Agreement, which is 3Com's standard commercial license for the Software. Technical data is provided with limited rights only as provided in DFAR 252.227-7015 (Nov. 1995) or FAR 52.227-14 (June 1987), whichever is applicable.

TERM AND TERMINATION: The licenses granted hereunder are perpetual unless terminated earlier as specified below. You may terminate the licenses and this Agreement at any time by destroying the Software and Documentation together with all copies and merged portions in any form. The licenses and this Agreement will also terminate immediately if you fail to comply with any term or condition of this Agreement. Upon such termination you agree to destroy the Software and Documentation, together with all copies and merged portions in any form.

LIMITED WARRANTIES AND LIMITATION OF LIABILITY: All warranties and limitations of liability applicable to the Software are as stated on the Limited Warranty Card or in the product manual, whether in paper or electronic form, accompanying the Software. Such warranties and limitations of liability are incorporated herein in their entirety by this reference.

GOVERNING LAW: This Agreement shall be governed by the laws of the State of California, U.S.A. excluding its conflicts of laws principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

SEVERABILITY: In the event any provision of this Agreement is found to be invalid, illegal or unenforceable, the validity, legality and enforceability of any of the remaining provisions shall not in any way be affected or impaired and a valid, legal and enforceable provision of similar intent and economic impact shall be substituted therefor.

ENTIRE AGREEMENT: This Agreement sets forth the entire understanding and agreement between you and 3Com and supersedes all prior agreements, whether written or oral, with respect to the Software and Documentation, and may be amended only in a writing signed by both parties.

Should you have any questions concerning this Agreement or if you desire to contact 3Com for any reason, please contact the 3Com subsidiary serving your country, or write: 3Com Corporation, Customer Support Information, 350 Campus Drive, Marlborough, MA 01752-3064

3Com Corporation

350 Campus Drive,

Marlborough, MA 01752-3064

Copyright © 2004 3Com Corporation and its licensors. All rights reserved. 3Com is a registered trademark of 3Com Corporation.

Downloaded from www.Manualslib.com manuals search engine

GLOSSARY

802.11b The IEEE specification for wireless Ethernet which allows speeds of up to 11 Mbps. The standard provides for 1, 2, 5.5 and 11 Mbps data rates. The rates will switch automatically depending on range and environment.

802.11g The IEEE specification for wireless Ethernet which allows speeds of up to 54 Mbps. The standard provides for 6, 12, 24, 36, 48 and 54 Mbps data rates. The rates will switch automatically depending on range and environment.

10BASE-T The IEEE specification for 10 Mbps Ethernet over Category 3, 4 or 5 twisted pair cable.

100BASE-TX The IEEE specification for 100 Mbps Fast Ethernet over Category 5 twisted-pair cable.

Access Point An Access Point is a device through which wireless clients connect to other wireless clients and which acts as a bridge between wireless clients and a wired network, such as Ethernet. Wireless clients can be moved anywhere within the coverage area of the access point and still connect with each other. If connected to an Ethernet network, the access point monitors Ethernet traffic and forwards appropriate Ethernet messages to the wireless network, while also monitoring wireless client radio traffic and forwarding wireless client messages to the Ethernet LAN.

Ad Hoc mode Ad Hoc mode is a configuration supported by most wireless clients. It is used to connect a peer to peer network together without the use of an access point. It offers lower performance than infrastructure mode, which is the mode the Router uses. (see also Infrastructure mode.)

Auto-negotiation Some devices in the OfficeConnect range support auto-negotiation. Auto-negotiation is where two devices sharing a link, automatically

Downloaded from www.Manualslib.com manuals search engine

configure to use the best common speed. The order of preference (best first) is: 100BASE-TX full duplex, 100BASE-TX half duplex, 10BASE-T full duplex, and 10BASE-T half duplex. Auto-negotiation is defined in the IEEE 802.3 standard for Ethernet and is an operation that takes place in a few milliseconds.

Bandwidth The information capacity, measured in bits per second, that a channel can transmit. The bandwidth of Ethernet is 10 Mbps, the bandwidth of Fast Ethernet is 100 Mbps. The bandwidth for 802.11b wireless is 11Mbps.

Category 3 Cables One of five grades of Twisted Pair (TP) cabling defined by the EIA/TIA-586 standard. Category 3 is voice grade cable and can only be used in Ethernet networks (10BASE-T) to transmit data at speeds of up to 10 Mbps.

Category 5 Cables One of five grades of Twisted Pair (TP) cabling defined by the EIA/TIA-586 standard. Category 5 can be used in Ethernet (10BASE-T) and Fast Ethernet networks (100BASE-TX) and can transmit data up to speeds of 100 Mbps. Category 5 cabling is better to use for network cabling than Category 3, because it supports both Ethernet (10 Mbps) and Fast Ethernet (100 Mbps) speeds.

Channel Similar to any radio device, the OfficeConnect Router allows you to choose different radio channels in the wireless spectrum. A channel is a particular frequency within the 2.4GHz spectrum within which the Router operates.

Client The term used to described the desktop PC that is connected to your network.

DDNS Dynamic Domain Name Server. A method that enables Internet users to tie their domain name(s) to computers or servers. DDNS enables a domain name to follow an IP address automatically when the IP address changes.

DHCP **Dynamic Host Configuration Protocol.** This protocol automatically assigns an IP address for every computer on your network. Windows 95, Windows 98 and Windows NT 4.0 contain software that assigns IP addresses to workstations on a network. These assignments are made by the DHCP server software that runs on Windows NT Server, and Windows

Downloaded from www.Manualslib.com manuals search engine

95 and Windows 98 will call the server to obtain the address. Windows 98 will allocate itself an address if no DHCP server can be found.

DNS Server Address DNS stands for Domain Name System, which allows Internet host computers to have a domain name (such as 3com.com) and one or more IP addresses (such as 192.34.45.8). A DNS server keeps a database of host computers and their respective domain names and IP addresses, so that when a domain name is requested (as in typing "3com.com" into your Internet browser), the user is sent to the proper IP address. The DNS server address used by the computers on your home network is the location of the DNS server your ISP has assigned.

DSL modem DSL stands for digital subscriber line. A DSL modem uses your existing phone lines to send and receive data at high speeds.

Encryption A method for providing a level of security to wireless data transmissions. The OfficeConnect Router and Wireless Router offer a choice of encryption methods. See "WPA" and "WEP" for details.

ESSID Extended Service Set Identifier. The ESSID is a unique identifier for your wireless network. You must have the same ESSID entered into the Router and each of it's wireless clients.

Ethernet A LAN specification developed jointly by Xerox, Intel and Digital Equipment Corporation. Ethernet networks use CSMA/CD to transmit packets at a rate of 10 Mbps over a variety of cables.

Ethernet Address See MAC address.

Fast Ethernet An Ethernet system that is designed to operate at 100 Mbps.

Firewall Electronic protection that prevents anyone outside of your network from seeing your files or damaging your computers.

Full Duplex A system that allows packets to be transmitted and received at the same time and, in effect, doubles the potential throughput of a link.

Downloaded from www.Manualslib.com manuals search engine

Router A device that acts as a central hub by connecting to each computer's network interface card and managing the data traffic between the local network and the Internet.

Half Duplex A system that allows packets to transmitted and received, but not at the same time. Contrast with full duplex.

Hub A device that regenerates LAN traffic so that the transmission distance of that signal can be extended. Hubs are similar to repeaters, in that they connect LANs of the same type; however they connect more LANs than a repeater and are generally more sophisticated.

IEEE **Institute of Electrical and Electronics Engineers.** This American organization was founded in 1963 and sets standards for computers and communications.

IETF **Internet Engineering Task Force.** An organization responsible for providing engineering solutions for TCP/IP networks. In the network management area, this group is responsible for the development of the SNMP protocol.

Infrastructure mode Infrastructure mode is the wireless configuration supported by the Router. You will need to ensure all of your clients are set up to use infrastructure mode in order for them to communicate with the Access Point built into your Router. (see also Ad Hoc mode)

IP **Internet Protocol.** IP is a layer 3 network protocol that is the standard for sending data through a network. IP is part of the TCP/IP set of protocols that describe the routing of packets to addressed devices. An IP address consists of 32 bits divided into two or three fields: a network number and a host number or a network number, a subnet number, and a host number.

IP Address **Internet Protocol Address.** A unique identifier for a device attached to a network using TCP/IP. The address is written as four octets separated with periods (full-stops), and is made up of a network section, an optional subnet section and a host section.

Downloaded from www.Manualslib.com manuals search engine

ISP Internet Service Provider. An ISP is a business that provides connectivity to the Internet for individuals and other businesses or organizations.

LAN **Local Area Network.** A network of end stations (such as PCs, printers, servers) and network devices (hubs and switches) that cover a relatively small geographic area (usually not larger than a floor or building). LANs are characterized by high transmission speeds over short distances (up to 1000 metres).

MAC **Media Access Control.** A protocol specified by the IEEE for determining which devices have access to a network at any one time.

MAC Address **Media Access Control Address.** Also called the hardware or physical address. A layer 2 address associated with a particular network device. Most devices that connect to a LAN have a MAC address assigned to them as they are used to identify other devices in a network. MAC addresses are 6 bytes long.

MTU Maximum Transmission Unit is the size of the largest datagram that can be sent over a network

NAT Network Address Translation. NAT enables all the computers on your network to share one IP address. The NAT capability of the Router allows you to access the Internet from any computer on your home network without having to purchase more IP addresses from your ISP.

Network A Network is a collection of computers and other computer equipment that are connected for the purpose of exchanging information or sharing resources. Networks vary in size, some are within a single room, others span continents.

Network Interface Card (NIC) A circuit board installed into a piece of computing equipment, for example, a computer, that enables you to connect it to the network. A NIC is also known as an adapter or adapter card.

Protocol A set of rules for communication between devices on a network. The rules dictate format, timing, sequencing and error control.

Downloaded from www.Manualslib.com manuals search engine

PPPoE Point-to-Point Protocol over Ethernet. Point-to-Point Protocol is a method of data transmission originally created for dial-up connections; PPPoE is for Ethernet connections.

PPTP Point-to-Point Tunneling Protocol is a method of secure data transmission between two remote sites over the internet.

QoS QoS stands for Quality of Service. QoS is a generic name for a set of algorithms which attempt to provide different levels of quality to different types of network traffic.

RIP Routing Information Protocol. RIP allows an administrator to set up routing information on one RIP enabled device, and have that routing information replicated to all RIP enabled devices on the network.

RJ-45 A standard connector used to connect Ethernet networks. The "RJ" stands for "registered jack".

Server A computer in a network that is shared by multiple end stations. Servers provide end stations with access to shared network services such as computer files and printer queues.

SPI Stateful Packet Inspection. This feature requires the firewall to remember what outgoing requests have been sent and only allow responses to those requests back through the firewall. This way, un-requested attempts to access the network will be denied.

SSID Service Set Identifier. Some vendors of wireless products use SSID interchangeably with ESSID.

SNMP Simple Network Management Protocol. It is used by network management systems to communicate with network elements.

Subnet Address An extension of the IP addressing scheme that allows a site to use a single IP network address for multiple physical networks.

Subnet mask A subnet mask, which may be a part of the TCP/IP information provided by your ISP, is a set of four numbers configured like an IP address. It is used to create IP address numbers used only within a particular network

Downloaded from www.Manualslib.com manuals search engine

(as opposed to valid IP address numbers recognized by the Internet, which must assigned by InterNIC).

Subnets A network that is a component of a larger network.

Switch A device that interconnects several LANs to form a single logical LAN that comprises of several LAN segments. Switches are similar to bridges, in that they connect LANs of a different type; however they connect more LANs than a bridge and are generally more sophisticated.

TCP/IP **Transmission Control Protocol/Internet Protocol.** This is the name for two of the most well-known protocols developed for the interconnection of networks. Originally a UNIX standard, TCP/IP is now supported on almost all platforms, and is the protocol of the Internet.

TCP relates to the content of the data travelling through a network — ensuring that the information sent arrives in one piece when it reaches its destination. IP relates to the address of the end station to which data is being sent, as well as the address of the destination network.

Traffic The movement of data packets on a network.

universal plug and play Universal plug and play is a system which allows compatible applications to read some of their settings from the Router. This allows them to automatically configure some, or all, of their settings and need less user configuration.

URL Filter A URL Filter is a feature of a firewall that allows it to stop its clients form browsing inappropriate Web sites.

WAN Wide Area Network. A network that connects computers located in geographically separate areas (for example, different buildings, cities, or countries). The Internet is an example of a wide area network.

WDS Wireless Distribution System. A system that can be comprised of a bridging and/or a repeater mode. In wireless bridging, APs communicate only with each other to bridge together two separate networks. In wireless repeating, APs rebroadcast received signals to extend reach and range, at the expense of throughput. The Router uses wireless repeating.

Downloaded from www.Manualslib.com manuals search engine

WECA Wireless Ethernet Compatibility Alliance. An industry group formed to certify cross vendor interoperability and compatibility of 802.11b and 802.11g wireless networking products and to promote the standard for enterprise, small business and home environments. (see also 802.11b, 802.11g, Wi-Fi)

WEP **Wired Equivalent Privacy.** A shared key encryption mechanism for wireless networking. Encryption strength is 40/64 bit or 128 bit.

Wi-Fi Wireless Fidelity. This is the certification granted by WECA to products that meet their interoperability criteria. (see also 802.11b, WECA)

Wireless Client The term used to describe a desktop or mobile PC that is wirelessly connected to your wireless network

Wireless LAN Service Area Another term for ESSID (Extended Service Set Identifier)

Wizard A Windows application that automates a procedure such as installation or configuration.

WLAN Wireless Local Area Network. A WLAN is a group of computers and devices connected together by wireless in a relatively small area (such as a house or office).

WPA Wi-Fi Protected Access. A dynamically changing encryption mechanism for wireless networking. Encryption strength is 256 bit.

Downloaded from www.Manualslib.com manuals search engine

INDEX

A
Addresses
  IP 113
Administration Password 34, 47
Advanced 81
  DDNS 82
  RIP 81
  static route 81
Automatic Addressing 115

C
Cable Specifications 119
Channels 137
Configuration
  backup 79
  restore 79
Conventions
  notice icons, About This Guide 9
  text, About This Guide 10
Country Selection 32

D
DDNS 82, 84
DHCP 41, 51, 115
DHCP Server 28
Discovery Application 111
DNS 26, 39
  primary 39
  secondary 39
DoS attacks 70
Dynamic IP Address 38, 66

E
encryption 54
  WPA 76

F
Firewall 66
  SPI 70
Forgotten Password 102

I
Internet
  addresses 113
Internet Addressing Mode 36
Internet Settings 65
  PPPoE 66
  PPTP 66
  static IP address 65
IP Address 21, 41, 113

L
LAN 41, 48
LED 14
Login 112

N
Network
  addresses 113
Networking
  wireless 103
NIC
  wireless 14

P
Password 31, 47
PPPoE 21, 28, 37, 66
PPTP 66
Profile 62

R
Remote Administration 92
Reset to Factory Defaults 79, 102
Restart 77
RIP 81
  setting up 82

S
Safety Information 19
Setup Wizard 31, 48
Special Applications 68
Specifications
  technical 117
SPI 70
Static IP Address 65
static IP address 65

Downloaded from www.Manualslib.com manuals search engine

static route 81
Subnet Mask 41, 113
Summary 44
Support Information 98
Support Links 98

T

TCP/IP 25, 28, 41, 113
Technical
  specifications 117
  standards 117
Technical Support 108
Time Zone 35, 78

U

Unit Configuration 48
Upgrade 80
URL Filter 74

V

Virtual Servers 66, 67

W

WAN 36
Web Proxy 29
Wireless
  authorized PCs 61
  channel selection 52
  client list 61
  configuration 52
  connection control 59
  encryption 54
  LED 15
  networking 103
  NIC 14
  service area name 53
  settings 42, 51

Downloaded from www.Manualslib.com manuals search engine

REGULATORY NOTICES

Regulatory Information

3Com OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router (WL-553) must be installed and used in strict accordance with the manufacturer's instructions as described in the user documentation that comes with the product.

This product contains encryption. It is unlawful to export out of the U.S. without obtaining a U.S. Export License.

This product does not contain any user serviceable components. Any unauthorized product changes or modifications will invalidate 3Com's warranty and all applicable regulatory certifications and approvals.

This product can only be used with the supplied antenna(s). The use of external amplifiers or non-3Com antennas may invalidate regulatory certifications and approvals.

CAUTION: EXPOSURE TO RADIO FREQUENCY RADIATION.

This device generates and radiates radio-frequency energy. In order to comply with FCC radio-frequency exposure guidelines for an uncontrolled environment, this equipment must be installed and operated while maintaining a minimum body to antenna distance of 20 cm (approximately 8 in.).

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rpb.

This product must maintain a minimum body to antenna distance of 20 cm. Under these conditions this product will meet the Basic Restriction limits of 1999/519/EC [Council Recommendation of 12 July 1999 on the

Downloaded from www.Manualslib.com manuals search engine

limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)].

US - Radio Frequency Requirements

This device must not be co-located or operated in conjunction with any other antenna or transmitter.

USA-FEDERAL COMMUNICATIONS COMMISSION (FCC)

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the distance between the equipment and the receiver
- Connect the equipment to outlet on a circuit different from that to which the receiver is connect
- Consult the dealer or an experienced radio/TV technician for help

The user may find the following booklet prepared by the Federal Communications Commission helpful:*The Interference Handbook*

This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402. Stock No.004-000-0034504.

3Com is not responsible for any radio or television interference caused by unauthorized modification of the devices included with this 3Com OfficeConnect ADSL Wireless108Mbps 11g Firewall Router (WL-553), or the substitution or attachment of connecting cables and equipment other than specified by 3Com.

Downloaded from www.Manualslib.com manuals search engine

The correction of interference caused by such unauthorized modification, substitution or attachment will be the responsibility of the user.

MANUFACTURER'S DECLARATION OF CONFORMITY

3Com Corporation

350 Campus Drive

Marlborough, MA 01752-3064, USA

(800) 527-8677

Date: 03,20 2007

Declares that the Product:

Brand Name: 3Com Corporation

Model Number: WL-553

Equipment Type: 3Com OfficeConnect ADSL Wireless 108Mbps 11g Firewall Router

3Com OfficeConnect ADSL Wireless108Mbps 11g Firewall Router

Model WL-553

Complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

CANADA – INDUSTRYCANADA (IC)

This device complies with RSS 210 of Industry Canada.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of this device."

L'utilisation de ce dispositif est autorisée seulement aux conditions suivantes: (1) il ne doit pas produire de brouillage et (2) l' utilisateur du

Downloaded from www.Manualslib.com manuals search engine

dispositif doit étre prêt à accepter tout brouillage radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

The term "IC" before the equipment certification number only signifies that the Industry Canada technical specifications were met.

To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (EIRP) is not more than that required for successful communication. To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empecher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit etre utilize a l'interieur et devrait etre place loin des fenetres afin de Fournier un ecram de blindage maximal. Si le matriel (ou son antenne d'emission) est installe a l'exterieur, il doit faire l'objet d'une licence.

INDUSTRY CANADA (IC) EMISSIONS COMPLIANCE STATEMENT

This Class B digital apparatus complies with Canadian ICES-003.

DE CONFORMITÉ À LA RÉGLEMENTATION D'INDUSTRIE CANADA

Cet appareil numérique de la classe B est conform à la norme NMB-003 du Canada.

SAFETY COMPLIANCE NOTICE

This device has been tested and certified according to the following safety standards and is intended for use only in Information Technology Equipment which has been tested to these or other equivalent standards:

- UL Standard 60950-1
- CAN/CSA C22.2 No. 60950-1
- IEC 60950-1
- EN 60950-1

Downloaded from www.Manualslib.com manuals search engine

EUROPE – EU DECLARATION OF CONFORMITY

Note: to ensure product operation is in compliance with local regulations, select the country in which the product is installed. Refer to 3Com OfficeConnect Wireless 54Mbps/108Mbps 11g ADSL

This equipment may be operated in							
AT	BE	CY	CZ	DK	EE	FI	FR
DE	GR	HU	IE	IT	LV	LT	LU
MT	NL	PL	PT	SK	SI	ES	SE
GB	IS	LI	NO	CH	BG	RO	TR

Intended use: IEEE 802.11g/b radio LAN device

EUROPE - DECLARATION OF CONFORMITY IN LANGUAGES OF THE EUROPEAN COMMUNITY

English	Hereby, *3Com Corporation*, declares that this *RLAN device* is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Finnish	*3Com Corporation* vakuuttaa täten että *RLAN device* tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Dutch	Hierbij verklaart *3Com Corporation* dat het toestel *RLAN device* in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG Bij deze verklaart *3Com Corporation* dat deze *RLAN device* voldoet aan de essentiële eisen en aan de overige relevante bepalingen van Richtlijn 1999/5/EC.
French	Par la présente *3Com Corporation* déclare que l'appareil *RLAN device* est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE Par la présente, *3Com Corporation* déclare que ce *RLAN device* est conforme aux exigences essentielles et aux autres dispositions de la directive 1999/5/CE qui lui sont applicables
Swedish	Härmed intygar *3Com Corporation* att denna *RLAN device* står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Danish	Undertegnede *3Com Corporation* erklærer herved, at følgende udstyr *RLAN device* overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF
German	Hiermit erklärt *3Com Corporation*, dass sich *dieser/diese/dieses RLAN device* in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet". (BMWi) Hiermit erklärt *3Com Corporation* die Übereinstimmung des Gerätes *RLAN device* mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG. (Wien)

Downloaded from www.Manualslib.com manuals search engine

Italian	Con la presente *3Com Corporation* dichiara che questo *RLAN device* è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Spanish	Por medio de la presente *3Com Corporation* declara que el *RLAN device* cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE
Portuguese	*3Com Corporation* declara que este *RLAN device* está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Malti	Hawnhekk, *3Com Corporation*, jiddikjara li dan *RLAN device* jikkonforma mal-tiijiet essenzjali u ma provvedimenti orajn relevanti li hemm fid-Dirrettiva 1999/5/EC
Estonian	Käesolevaga kinnitab *3Com Corporation* seadme *RLAN device* vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Hungarian	Alulírott, *3Com Corporation* nyilatkozom, hogy a *RLAN device* megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Slovak	*3Com Corporation* týmto vyhlasuje, že *RLAN device* spa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Czech	*3Com Corporation* tímto prohlašuje, že tento *RLAN device* je ve shod se základními požadavky a dalšími píslušnými ustanoveními smrnice 1999/5/ES.
Slovene	Šiuo *3Com Corporation* deklaruoja, kad šis *RLAN device* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Lithuanian	Šiuo *3Com Corporation* deklaruoja, kad šis *RLAN device* atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Latvian	Ar šo *3Com Corporation* deklar, ka *RLAN device* atbilst Direktvas 1999/5/EK btiskajm prasbm un citiem ar to saisttajiem noteikumiem.

A copy of the signed Declaration of Conformity can be downloaded from the Product Support web page for the 3CRWDR200A-75 & 3CRWDR200B-75 at http://www.3com.com.

Europe – Restrictions for Use of 2.4GHz Frequencies in European Community Countries

- This device may be operated **indoors or outdoors** in all countries of the European Community using the 2.4GHz band: Channels 1 – 13, except where noted below.
- **In Italy** the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- In **Belgium** outdoor operation is only permitted using the 2.46 – 2.4835 GHz band: Channel 13.
- In **France** outdoor operation is only permitted using the 2.4 – 2.454 GHz band: Channels 1 – 7.

Brazil RF Compliance

Este equipamento opera em caráter secundário, isto é, náo tem direito a proteçáo contra interferencia prejudicial, mesmo de estaçoes do mesmo tipo, e náo causar interferencia a sistema operando em caráter primário.

Downloaded from www.Manualslib.com manuals search engine

Downloaded from www.Manualslib.com manuals search engine

3Com Corporation, Corporate Headquarters,
350 Campus Drive, Marlborough, MA
USA 01752-3064.

To learn more about 3Com products and services,
visit our World Wide Web site at **www.3com.com**

All specifications are subject to change without notice.

Copyright © 2008 3Com Corporation. All rights reserved.
3Com and OfficeConnect are registered trademarks of
3Com Corporation. All other company and product names
may be trademarks of their respective companies.

10015251

Downloaded from www.Manualslib.com manuals search engine